

# Final Environmental Assessment

# FM 2493, Tyler District

From FM 346 in Flint, South to US 69

CSJs: 0191-03-083, 0191-04-008 and 0191-02-066

Smith and Cherokee Counties, Texas

March 2019

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.

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Appendix E:

Plan and Program Excerpts
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#### **ACRONYMS**

AADT Annual Average Daily Traffic

Average Daily Traffic ADT Area of Potential Effects APE **BMP Best Management Practice** CAAA Clean Air Act Amendments **CBRA** Coastal Barrier Resources Act **CBRS** Coastal Barrier Resources System Council on Environmental Quality CEQ CFR Code of Federal Regulations CGP Construction General Permit

CO Carbon Monoxide
CR County Road
CWA Clean Water Act
dB(A) A-weighted decibel

DHHS U.S. Department of Health and Human Services

DOT Department of Transportation
EA Environmental Assessment
EIS Environmental Impact Statement

EJ Environmental Justice

EMST Ecological Mapping Systems of Texas

EO Executive Order

EPA U.S. Environmental Protection Agency

EPIC Environmental Permits, Issues, & Commitments

ESA Environmental Site Assessment ETC Estimated Time of Completion

FEMA Federal Emergency Management Agency

FHWA Federal Highway Administration

FM Farm-to-Market Road

FONSI Finding of No Significant Impact
FPPA Farmland Protection Policy Act
FWCA Fish and Wildlife Coordination Act

HEI Health Effects Institute

IRIS Integrated Risk Information System

ISA Initial Site Assessment
LEP Limited English Proficiency
LPST Leaking Petroleum Storage Tank
LWCF Land and Water Conservation Funds
MAPO Meeting with Affected Property Owners

MBTA Migratory Bird Treaty Act
MMPA Marine Mammal Protection Act
MOVES Motor Vehicle Emissions Simulator
MOU Memorandum of Understanding
MPA Metropolitan Planning Area

MPH Miles per Hour

MPO Metropolitan Planning Organization

MSA Magnuson-Stevens Fishery Conservation Management Act

MS4 Municipal Separate Storm Sewer System

MSATs Mobile Source Air Toxics

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NAAQS National Ambient Air Quality Standards

NAC Noise Abatement Criteria

NATA National Air Toxics Assessment
NEPA National Environmental Policy Act
NFIP National Flood Insurance Program
NHL National Historic Landmarks
NHPA National Historic Preservation Act
NMFS National Marine Fisheries Service

NOI Notice of Intent

NRCS Natural Resources Conservation Service
NRHP National Register of Historic Places

NWP Nationwide Permit

OTHM Official Texas Historical Markers
PA Programmatic Agreements
PCN Pre-Construction Notification

PM Particulate Matter

PS&E Plan Specification and Estimates

PWC Parks and Wildlife Code

ROW Right-of-Way

RTHL Recorded Texas Historic Landmarks
SGCN Species of Greatest Conservation Need

SH State Highway

SHPO State Historic Preservation Office

STIP Statewide Transportation Improvement Program

SW3P Storm Water Pollution Prevention Plan

TAC Texas Administrative Code
TAQA Traffic Air Quality Analysis
TCAP Texas Conservation Action Plan

TCEQ Texas Commission on Environmental Quality

TERP Texas Emissions Reduction Plan
THC Texas Historical Commission

TIP Transportation Improvement Program

TMDL Total Maximum Daily Load

TP&P Transportation Planning and Programming
TPDES Texas Pollutant Discharge Elimination System

TPWD Texas Parks and Wildlife Department

TSS Total Suspended Solids

TSWQS Texas Surface Water Quality Standards TxDOT Texas Department of Transportation

USACE U.S. Army Corps of Engineers USFWS U.S. Fish and Wildlife Service

USIBWC U.S. International Boundary and Water Commission

VMT Vehicle-Miles Traveled VPD Vehicles per Day

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#### 1.0 INTRODUCTION

The Texas Department of Transportation (TxDOT) proposes to widen Farm-to-Market (FM) 2493 in Smith and Cherokee Counties, Texas, from two to four lanes with a flush median (continuous left turn lane), beginning at FM 346 in Flint and continuing south to US 69 near Bullard, for approximately 9.2 miles. The project includes a grade separation at US 69 and an approximate 1-mile transition east of US 69. The purpose of this Environmental Assessment (EA) is to study the potential environmental consequences of the proposed project and determine whether such consequences warrant preparation of an Environmental Impact Statement (EIS). **Appendix A** provides the project location maps.

This EA has been prepared to comply with both TxDOT's environmental review rules and the National Environmental Policy Act (NEPA). This EA will be made available for public review and following the comment period, TxDOT will consider any comments submitted. If TxDOT determines that there are no significant adverse effects, it will prepare and sign a Finding of No Significant Impact (FONSI), which will be made available to the public.

The proposed project has been developed in accordance with the procedural provisions of NEPA, the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA, Code of Federal Regulations (CFR) Title 23 Highways Part 771 Environmental Impact and Related Procedures, the Federal Highway Administration's (FHWA) Technical Advisory T 6640.8A and the Texas Administrative Code (TAC) Title 43 Part 1 Chapter 2 Environmental Review of Transportation Projects. In addition, all planning, design, and environmental documents are being developed in accordance with applicable State and Federal laws and with TxDOT's Memoranda of Understanding (MOU) and Programmatic Agreements (PA) with the Texas Historical Commission (THC), the Texas Parks and Wildlife Department (TPWD), and the Texas Commission on Environmental Quality (TCEQ).

The project team, which included planners, engineers, natural and social scientists, and NEPA professionals, used a systematic interdisciplinary planning and design approach that integrated natural, social, and environmental sciences. The planning process was based on need and purpose, project objectives, and engineering and environmental constraints in the project area. In addition, public involvement played an integral part in project development, and project cost and funding were considered. These planning strategies were used in the formulation and analysis of the proposed project alternatives.

#### 2.0 PROJECT DESCRIPTION

# 2.1 Existing Facility

The existing FM 2493 facility within the project limits is a two-lane, undivided roadway. Lane widths are approximately 12 feet (ft.) with shoulders of varying widths. Existing right-of-way (ROW) varies from 60 to 170 ft. The posted speed limit varies from 40 miles per hour (mph) to 60 mph. Photographs of the existing facility can be found in **Appendix B**.

# 2.2 Proposed Facility

The proposed FM 2493 project would consist of widening the existing 2-lane undivided highway to a 4-lane highway with a flush median (continuous left turn lane). The project includes a section on new location leading to a grade separation at US 69 and an approximate 1-mile transition east of US 69. The proposed new-location portion of FM 2493 and grade separation at US 69 would improve traffic flow in the area, as FM 2493 would no longer be disjointed, and travelers would not have to access US 69 to continue traveling on FM 2493. The proposed typical section consists of four 12-ft. lanes (two in each direction), a 16-ft. continuous left turn lane, six-ft. bike lanes, and five-ft. sidewalks (only in specific locations). Drainage would be via storm sewer. The ROW width varies from 142 to 240 ft. Approximately 68 acres of additional ROW would be required to implement the proposed improvements. There are no planned easements, either temporary or permanent. The proposed speed limit would be posted at 40-60 mph. The proposed project would not be tolled.

Federal regulations require that federally funded transportation projects have logical termini (23 CFR 771.111(f)(1)). Simply stated, this means that a project must have rational beginning and end points. Those end points may not be created simply to avoid proper analysis of environmental impacts. The proposed project limits serve as logical termini for the project. FM 346 and US 69 are considered rational end points for the proposed project (traffic generators and major intersecting highways).

Federal regulations require that a project have independent utility and be a reasonable expenditure even if no other transportation improvements are made in the area (23 CFR 771.111(f)(2)). This means a project must be able to provide benefit by itself, and that the project not compel further expenditures to make the project useful. Stated another way, a project must be able to satisfy its purpose and need with no other projects being built. The proposed project would have independent utility (e.g., the facility would function on its own without further construction of an adjoining segment).

Federal law prohibits a project from restricting consideration of alternatives for other reasonably foreseeable transportation improvements (23 CFR 771.111(f)(3)). This means that a project must not dictate or restrict any future roadway alternatives. Because the project stands alone, it does not dictate or restrict any future roadway alternatives for other reasonably foreseeable transportation improvements.

Project CSJ (0191-03-083) is listed in Statewide Transportation Improvement Program (STIP). The other two CSJs (0191-04-008 and 0191-02-066) have plan authority in TxDOT's Project Tracker. The STIP listing and Project Tracker pages are included in **Appendix E**.

Construction cost is estimated at \$91,300,000 and would be federally and state funded.

The proposed FM 2493 design layout can be seen in **Appendix C** and typical sections can be seen in **Appendix D**.

# 3.0 PURPOSE AND NEED

#### **3.1** Need

This project is needed because FM 2493 between FM 346 and US 69 is inadequate to meet current and future traffic volumes, resulting in congestion and reduced mobility.

# 3.2 Supporting Facts and/or Data

According to the Tyler Area Metropolitan Planning Organization's 2040 Metropolitan Transportation Plan, between 2012 and 2040, the Tyler Area Metropolitan Planning Organization (MPO) is expected to gain 62,235 new residents, resulting in 262,746 people living within the Metropolitan Planning Area (MPA) – a 31 percent increase. Between 2012 and 2040, the Tyler Area MPO is expected to gain 21,074 additional employees, resulting in 118,850 employees the MPA area – a 22 percent increase. Although the FM 2493 project area lies outside the City of Tyler, the majority of the proposed project lies within the MPA.

Anticipated regional population and employment growth is expected to increase traffic substantially on area roadways. According to TxDOT's Transportation Planning and Programming Division (TP&P), 2015 average daily traffic (ADT) on FM 2493 within the proposed project limits is approximately 7,000 vehicles between FM 346 and FM 344 and 4,500 vehicles between FM 344 and US 69. TP&P forecasts ADT to grow to 11,800 vehicles between FM 346 and FM 344 and to 7,300 vehicles between FM 344 and US 69 by 2045, an increase of approximately 69% and 62% respectively.

# 3.3 Purpose

The purpose of the proposed project is to improve mobility on FM 2493 between FM 346 and US 69 to accommodate current and future traffic volumes.

# 4.0 ALTERNATIVES

# 4.1 Build Alternative

The preferred Build Alternative would meet the purpose and need by increasing capacity to meet current and future traffic volumes. In addition, the preferred Build Alternative would provide bike lanes and sidewalks (only in specific locations) for cyclists and pedestrians and reduce conflicts of turning and crossing vehicles by constructing a flush median (continuous left turn lane) within the project limits.

#### 4.2 No-Build Alternative

The No-Build Alternative would not accommodate current and future traffic volumes. This alternative would not meet the purpose and need of the project. Therefore, the build alternative is the preferred alternative. The No-Build Alternative will be carried forward for comparison purposes.

# 4.3 Preliminary Alternatives Considered

Three preliminary Build Alternatives and the No Build Alternative were developed and analyzed at an equal level of detail. Criteria used in the alternatives analysis to eliminate some of the alternatives were ROW requirements, displacement of residences and businesses, other social, economic, and environmental impacts and construction cost. The three alternatives included (1) widening to the east, (2) widening to the west and (3) widening to both sides of the existing FM 2493. All widening alternatives were based on two typical sections: an urban section with four 12-ft. lanes (two in each direction), a 16-ft. continuous left turn lane, six-ft. bike lanes and five-ft. sidewalks within a ROW that varied between 118 to 240 ft.; and a rural section with four 12-ft. lanes (two in each direction), a 16-ft. continuous left turn lane, and ten-ft. shoulders within a ROW that varied between 158 to 270 ft.. The urban sections utilized storm sewers for drainage while the rural sections used grass-lines open ditches.

All three alternatives would meet the stated purpose and need of the project. The third alternative (widening to both sides) maximizes the benefits and minimizes the impacts of Alternatives 1 and 2 and was selected to be carried forward for further study as the preferred build alternative. The preferred build alternative was designed to minimize displacements and other impacts to adjacent properties by taking ROW from the east, the west or both sides of FM 2493 depending on adjacent land uses.

# 5.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

In support of this EA, the following technical reports were prepared:

- Air Quality Technical Report
- Archeological Resources Background Study
- Biological Evaluation Form and Tier I Site Assessment
- Community Impacts Assessment Technical Report Form
- Hazardous Materials Initial Site Assessment
- Hazardous Materials Project Impact Evaluation Report
- Noise Technical Report
- Public Meeting Summary Reports
- Report for Historical Studies Survey

These technical reports may be inspected and copied upon request at the TxDOT Tyler office.

# 5.1 Right-of-Way/Displacements

The proposed FM 2493 project would require additional ROW, and thus, would result in potential displacements. Approximately 68 acres of new ROW would be required, which would result in the potential displacement of 22 single family residences and 4 commercial facilities.

It appears that local real estate is available to accommodate the potential displacements to the extent that they could relocate in the immediate area. Additionally, it is possible that some businesses/residences could be relocated on existing property, set back farther from the proposed roadway. Avoiding potential displacements to the extent practical would continue to be considered during the detailed design phase of the project. The proposed FM 2493 design layout can be seen in **Appendix C.** 

The acquisition of proposed ROW and any potential relocations will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), as amended. Relocation resources are available to all potential residential and business relocatees without discrimination.

The no-build alternative would not require any additional ROW and would leave the existing surrounding area intact. No displacements or relocations would occur.

There are also no temporary or permanent easements required for the preferred alternative and no-build alternative.

#### 5.2 Land Use

The proposed project area is located within the communities of Flint in Smith County and Bullard in Smith and Cherokee Counties. The existing ROW is dedicated to transportation use. Land use surrounding the existing ROW consists of a mixture of rural, residential, and commercial uses. Development is more concentrated in Flint and Bullard. As one leaves these communities, commercial development begins to decrease, and large-lot residences and undeveloped land become more common.

There are five schools in the project area:

- Brook Hill School (private, adjacent to FM 2493)
- Bullard High School (public, adjacent to FM 2493)
- Bullard Intermediate School (public, not adjacent to FM 2493)
- Bullard Middle School (public, not adjacent to FM 2493)
- Bullard Primary School (public, not adjacent to FM 2493)

There are six churches in the project area:

- Bullard Church of Christ (not adjacent to FM 2493)
- Bullard First Assembly of God (adjacent to FM 2493)
- Bullard Southern Baptist Church (adjacent to FM 2493)
- First Baptist of Bullard (adjacent to FM 2493)
- First United Methodist Church (not adjacent to FM 2493)
- Flint United Methodist Church (not adjacent to FM 2493)
- Grace Fellowship Church (adjacent to FM 2493)

There is one park in the project area:

Bullard City Park (adjacent to FM 2493)

Project area photographs are included in **Appendix B**.

The proposed project would convert 68 acres of property to highway ROW and potentially result in 22 residential displacements and 4 commercial displacements.

The no-build alternative would not require any property conversion and is not expected to have land use impacts.

#### 5.3 Farmlands

The purpose of the Farmland Protection Policy Act of 1981 (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. The proposed project would convert farmland subject to the FPPA to a non-agricultural, transportation use, but the combined scores of the relative value of the farmland (maximum of 100 points) and the total corridor assessment (25 points), as documented on the Natural Resources Conservation Service (NRCS) Form NRCS-CPA-106 and supporting documentation is 125. In accordance with NRCS regulation (7 CFR 658.4(c)(2)), "Sites receiving a total score of less than 160 points need not be given further consideration for protection and no additional sites need to be evaluated." Therefore, the site need not be given further consideration for protection and no additional sites need to be evaluated (**Appendix F**).

The no-build alternative would not require any ROW or convert any farmland to a non-agricultural use.

# 5.4 Utilities and Emergency Services

Underground or overhead utilities would require adjustment or relocation. The location of utilities would be determined at the detailed design phase and coordination with utility owners would take place at that time. All utility adjustments would be in accordance with TxDOT, City, and County design policy guidelines. The adjustment and relocation of any utilities would be handled so that no substantial interruptions would take place while these adjustments are being made.

With improved mobility and less congestion in the project area, emergency response times are anticipated to be improved.

The no-build alternative would not require any utility adjustments and there would be no access changes that could affect emergency services. However, increasing congestion could increase emergency response times.

#### 5.5 Bicycle and Pedestrian Facilities

The project proposes to construct six-ft. bike lanes and five-ft. sidewalks (only in specific locations) along the proposed ROW along each side of FM 2493. The project will accommodate bicyclists and pedestrians in compliance with TxDOT's policy and USDOT's policy statement on bicycle and pedestrian accommodation.

The no-build alternative would not provide any accommodations for cyclists or pedestrians.

# 5.6 Community Impacts

A Community Impacts Assessment Technical Report was completed and is on file at TxDOT. TxDOT has and will continue to facilitate communication with the adjacent property owners (commercial and residents), local officials from Flint and Bullard, and other public agencies with interests along FM 2493.

#### 5.6.1 Access and Travel Patterns

There would be no changes to access and/or travel patterns on FM 2493 from FM 346 to N. Rather Street. An additional driveway is proposed off FM 2493 to Bullard City Park, which would improve access for this facility. No other impacts to access for adjacent properties are anticipated.

The proposed new-location portion of FM 2493 and grade separation at US 69 would improve traffic flow in the area, as FM 2493 would no longer be disjointed, and travelers would not have to access US 69 to continue traveling on FM 2493. All neighborhoods and businesses in the community study area would experience a benefit from the direct connection of FM 2493. Furthermore, the proposed added capacity of the project is intended to improve traffic mobility for existing and future conditions, which is anticipated to result in permanent benefits to businesses and residences in the study area, including community facilities (i.e. churches and schools) and emergency and law enforcement services.

Permanent benefits to bicyclists and pedestrians would occur as a result of the proposed project. There are no existing bicycle or pedestrian accommodations within the corridor. Under the implementation of the project, six-ft. bike lanes and five-ft. sidewalks (only in specific locations) would be constructed.

#### 5.6.2 Community Cohesion

The existing FM 2493 corridor already serves as a boundary between communities and provides a means for members of the community to move between areas of residence, work, and recreation. Implementation of the proposed project would not separate any distinct neighborhoods, ethnic groups, or other specific groups.

Under implementation of the proposed project, FM 2493 would no longer be disjointed, and travelers would no longer need to access US 69 in order to continue traveling on FM 2493. The proposed realignment of FM 2493 is not anticipated to change the way that people within the community access other parts of the community, although, traffic flow and travel times for FM 2493 traffic are likely to improve due to the enhanced connectivity and added capacity.

The construction of bike lanes and sidewalks along FM 2493 could change the way people access adjacent businesses or residences, as bicycle and pedestrian accommodations do not currently exist along the corridor.

# 5.6.3 Environmental Justice (EJ)

There are five Census blocks in the study area that consist of over 50 percent minority population. None of the project area Census geographies were reported to have a median household income below \$25,100, the 2018 poverty guideline for a family of four set by the U.S. Department of Health and Human Services (DHHS). The proposed project would result in 22 residential and 4 commercial displacements; none of the displacements are located within a minority and/or low-income population. Permanent benefits to access and travel patterns are anticipated to not only environmental justice populations in the area, but to all users of the facility. The proposed project is not anticipated to result in disproportionate, adverse effects to minority and/or low-income populations.

# 5.6.4 Limited English Proficiency

Executive Order (EO) 13166, "Improving Access to Services for Persons with Limited English Proficiency," (LEP) requires agencies to examine the services they provide, identify any need for services to those with LEP, and develop and implement a system to provide those services so that LEP persons can have meaningful access to them. This EO requires federal agencies to work to ensure that recipients of federal financial assistance provide meaningful access to their LEP applicants and beneficiaries. Failure to ensure that LEP persons can effectively participate in or benefit from federally assisted programs and activities may violate the discrimination prohibition under Title VI of the Civil Rights Restoration Act of 1987 and Title VI regulations.

There are persons (approximately two percent of the population over the age of five) that speak English "less than very well" in the study area. The Census tracts located in Smith County have an approximate one percent LEP population, while the LEP population of the tracts in Cherokee County is slightly higher at approximately five percent. Overall, the majority of LEP speakers speak Spanish (approximately 88.5 percent of the LEP population). Individuals who speak other West Germanic languages represent approximately 6.7 percent of the LEP population, and individuals who speak African languages represent approximately 4.0 percent. Less than one percent of the LEP population speaks Portuguese.

TxDOT has conducted two public meetings for the proposed project, on May 12, 2016 and March 7, 2017. A public hearing was conducted on November 15, 2018. In addition, a MAPO was held on November 28, 2017.

In compliance with EO 13166 regarding LEP communities, the study area was assessed to determine if an LEP community exists. According to this analysis, there are persons (approximately two percent of the population over the age of five) that speak English "less than very well" in the study area. No translation services were requested for any of the previously-held public involvement activities. However, Spanish interpreters and bilingual materials were available at the public meetings and hearing. Therefore, the proposed project satisfies the requirements of EO 13166 and no LEP populations would be discriminated against because of the proposed project.

# 5.7 Visual and Aesthetic Impacts

Any environmental effects anticipated may result from the proposed FM 2493/US 69 grade separation, additional highway lighting systems, and other visual elements introduced to the corridor. Elevated lanes may impact visual quality and aesthetics by blocking the line-of-sight for sensitive viewers and by increasing viewer exposure. Roadway lighting systems can sometimes cause disruptions to adjacent neighborhoods by creating higher light levels at night. Visual and aesthetic resources within the project area were identified through field survey. Most of the visual and aesthetic resources within the project area are undeveloped land and open spaces. Many residences are located next to the roadway in the urbanized sections of the project; however, in more undeveloped areas, residences are typically set back from the roadway. Commercial areas are visible in the urbanized sections of the project area, and individual properties of these types occur occasionally throughout the corridor.

Temporary impacts on the visual character of the surrounding environment related to construction activities include those related to vehicle and equipment activity, construction staging, stockpiling of excavated material, temporary signage, and traffic congestion. Developed and naturally vegetated areas within the existing and proposed ROW may be cleared for the construction of the roadway lanes, and topography would be modified to fill slope and cut slopes for retaining walls. Construction activities would result in increased levels of dust, indirect transfer of dirt between locations, and localized glare from lighting sources assembled to ensure the safety of construction crews and vehicle drivers. Staging areas would be located away from visually sensitive areas where practicable and where land is available. Construction activities would be primarily limited to daylight hours to eliminate the need to use high-wattage lighting sources to operate during nighttime hours. Revegetation would take place in areas disturbed during construction.

The construction of the proposed project would permanently change views and the visual quality of the corridor due to an expanded roadway width and a new grade separation at US 69. Removal of vegetation in the form of trees and shrubs along the new ROW would result in a reduction of vegetative screening. Additional light impacts may result from new illumination. Widening of the roadway in new ROW would result in some homes and businesses being located closer to the roadway.

Overall, the proposed FM 2493 project would not have substantial impacts on visual quality and aesthetics.

The no-build alternative would not introduce any new visual elements. The roadway would remain in its present condition and there would be no visual or aesthetic impacts.

#### 5.8 Cultural Resources

Cultural resources include structures, buildings, archeological sites, districts (a collection of related structures, buildings, and/or archeological sites), cemeteries and objects. Both federal and state laws require consideration of cultural resources during project planning. At the federal level, NEPA and the National Historic Preservation Act (NHPA) of 1966, among others, apply to

transportation projects such as this one. In addition, state laws such as the Antiquities Code of Texas apply to these projects. Compliance with these laws often requires consultation with the THC/Texas State Historic Preservation Officer (SHPO) and/or federally-recognized tribes to determine the project's effects on cultural resources. Review and coordination of this project followed approved procedures for compliance with federal and state laws. Evaluation of impacts to cultural resources has been conducted in accordance with the Programmatic Agreement among FHWA, TxDOT, SHPO, and the Advisory Council on Historic Preservation regarding the Implementation of Transportation Undertakings.

# 5.8.1 Archeology

All Section 106 consultation for this undertaking was conducted according to the stipulations outlined in the Programmatic Agreement among the TxDOT, the THC, the FHWA, and the Advisory Council on Historic Preservation.

An archeological resources background study has been prepared.

A search of the Texas Archeological Sites Atlas (Atlas) maintained by the THC and the Texas Archeological Research Laboratory was conducted in order to identify archeological sites, historical markers (Recorded Texas Historic Landmarks), properties or districts listed on the National Register of Historic Places, State Antiquities Landmarks, cemeteries, or other cultural resources that may have been previously recorded in or near the Area of Potential Effects (APE), as well as previous surveys undertaken in the area. A larger 0.62-mile review area around the APE was also examined.

There are two historic markers and one historic cemetery within the APE and two additional cemeteries, one with an associated historical marker, in the larger review area. The historic Flint Cemetery and its associated historical marker are located in the northeast corner of FM 2493 and Craft Lane (County Road (CR) 148). The second historical marker in the APE is the site of the historic Bullard Water Well, which marks the origin of the community. The Bullard Cemetery and its associated historical marker are found within the 1-kilometer review area, just west of the APE along FM 344. The Douglas Cemetery is located to the west of the APE and south of the Bullard Cemetery in the 0.62-mile review area.

The APE has not been previously surveyed and based on the geology of the area, the potential for prehistoric archeological deposits is considered low. However, a larger portion of the proposed ROW occurs on parcels that contain farmhouses, outbuildings, and adjacent agricultural fields. Therefore, an intensive survey of the proposed new ROW was conducted where right-of-entry was granted. Access was available for approximately 45 percent of the project corridor. In areas where access was allowed, 32 shovel test units were excavated. All the shovel tests were sterile and lacked any cultural materials.

No survey was recommended at the Bullard Memorial Cemetery as the cemetery was established after the FM 2493 roadway was built and grave locations are located well outside of the current ROW. At the Flint Cemetery, mechanical trenching was used to evaluate the project

ROW. The backhoe trench lacked cultural materials and showed no evidence of unknown burials.

No further work is recommended in the areas where right-of-entry was granted. After ROW acquisition in areas where an archeological survey was recommended but right-of-entry was not granted, additional survey work is recommended.

A request for tribal consultation was sent on August 9, 2018. The comment period ended on September 9, 2018 with no objections (see **Appendix G**).

If unanticipated archeological deposits are encountered during construction, work in the immediate area will cease, and TxDOT archeological staff will be contacted to initiate post-review discovery procedures.

The no-build alternative would not require any ground disturbance or potential impacts to archeological resources.

# 5.8.2 Historic Properties

The proposed project would convert FM 2493 from a two-lane, undivided, rural roadway with partial-width shoulders to a five-lane, urban roadway with four 12-ft.-wide travel lanes, a 16-ft.-wide center turn lane, six-ft.-wide bike lanes, five-ft. sidewalks (only in specific locations) and curb and gutter. A grade-separated interchange would be constructed at US 69 at the south end of the project, and a new alignment for FM 2493 would be constructed west of the existing alignment south of CR 3801. A total of 68 acres of additional ROW would be acquired for the project.

A search of the Texas Historic Sites Atlas maintained by the THC was conducted to identify properties or districts listed on the NRHP, National Historic Landmarks (NHLs), Recorded Texas Historic Landmarks (RTHLs), Official Texas Historical Markers (OTHMs), cemeteries, or other cultural resources that may have been previously recorded in the APE, defined as all parcels intersected by a 150-ft. buffer from the existing ROW.

A reconnaissance-level survey was conducted to identify historic-age resources in the project's APE. Historic-age resources are those with a construction date of 1976 or earlier. If a parcel included historic-age resources, all resources regardless of age were documented.

The survey identified 147 historic-age resources, 76 non-historic age resources, and two resources of unknown age, located on 88 properties. Of the 147 historic-age resources surveyed, six are recommended eligible for the National Register of Historic Places (NRHP):

- Resource No. 54 107 South Phillips Street, Bullard, Texas (part of one-part commercial block)
- Resource No. 55 105 South Phillips Street, Bullard, Texas (part of one-part commercial block)

- Resource No. 56 202 West Main Street, Bullard, Texas (part of one-part commercial block)
- Resource No. 64A/64B 204 South Henderson Street, Bullard, Texas
- Resource No. 68A 112 East Tyler Street, Bullard, Texas

There is no NRHP historic district potential within the APE. Based on current project plans and the findings of the reconnaissance survey, the project will not have adverse effects on NRHP-eligible properties. Based on current project plans and the findings of the reconnaissance survey, the project will not have indirect, cumulative, or reasonably foreseeable adverse effects on NRHP-eligible properties.

The no-build alternative would not require any ROW acquisition or cause property impacts. The roadway would remain in its present condition and there would be no impacts to historic properties. A copy of the Historic Resources Survey Report is on file at the Tyler District Office.

# 5.9 DOT Act Sect. 4(f), LWCF Act Sect. 6(f) and PWC Chapter 26

The proposed project would not require the use or substantially impair the purposes of any publicly owned land from a recreational area, wildlife and waterfowl refuge lands or historic sites of national, State, or local significance; however, 0.22 acre of the Bullard City Park would be required for the proposed improvements. Therefore, a Department of Transportation (DOT) Act Section 4(f) evaluation is required and Parks and Wildlife Code (PWC) Chapter 26 would apply. Amenities at the Bullard City Park include playground equipment, picnic tables, a pavilion and two tennis courts. The proposed ROW would not impact any of these amenities or impair the function of the park. A public hearing was held to receive community input on impacts to the Bullard City Park. A *de minimis* impact determination was approved on December 18, 2018, and is included in **Appendix F**.

The Bullard City Park was not improved through the Land and Water Conservation Fund (LWCF); therefore, LWCF Act Section 6(f) would not apply.

The no-build alternative would not require any ROW acquisition or property impacts. The roadway would remain in its present condition and there would be no impacts to the Bullard City Park.

#### 5.10 Water Resources

# 5.10.1 Clean Water Act (CWA), Section 404

The U.S. Army Corps of Engineers (USACE) regulates impacts to jurisdictional waters, including waters of the U.S. and wetlands, under Section 404 of the CWA.

Four waters were identified within the existing and proposed ROW during field investigations performed in April 2015 and July 2018. These waters are all small ephemeral drainages that flow only after rain events. Each of the four drainages is considered a single and complete crossing and impacts at each are less than 0.1 acre. No wetlands were identified within the project limits. Impacts would be limited to replacing and extending existing culverts at each

location along the existing ROW and placing new culverts at each location in the new location portion of the project. Nationwide Permit 14 (Linear Transportation Projects) would cover all impacts associated with the project and no Pre-construction Notification (PCN) would be required. Maps showing the four waters can be seen in **Appendix F** and are summarized in Table 1 below. Wetland Determination Data Forms for each water along with a representative upland site are also included in **Appendix F**. Approximately 0.044 acre of a man-made stock pond would be impacted by the proposed project (see **Exhibit D-2** in **Appendix F**). This stock pond is not considered to be a jurisdictional water and Section 404 would not apply.

Drainage Number	Linear Ft. of Impact	Area of Impact (acres)	NWP Number	PCN Required?
1	252	0.036	NWP 14	No
2	215	0.056	NWP 14	No
3	22	0.024	NWP 14	No
4	247	0.098	NWP 14	No

Table 1: Waters of the U.S.

The no-build alternative would not involve any construction or impacts to Waters of the U.S. and no Section 404 permitting would be required.

# 5.10.2 Clean Water Act, Section 401

This project would require a USACE Section 404 Permit; therefore, Section 401 Water Quality Certification would be required.

Each drainage crossing would impact less than 1,500 linear ft. of stream and/or three acres of waters of the U.S. and would not affect rare/ecologically significant wetlands. The Tier I 401 Certification requirements for Nationwide Permit (NWP) 14 would be met by implementing approved erosion controls, sediment controls, and post-construction total suspended solids (TSS) controls. No long-term water quality impacts are expected because of the proposed project.

The design and construction of the proposed improvements would include construction and post-construction TCEQ 401 Water Quality Best Management Practices (BMP's) to manage storm water runoff for both surface water and groundwater as well as control sediments. BMPs would include temporary vegetation, blankets/matting and/or sod for erosion control, vegetative filter strips for post-construction TSS controls and silt fencing for sediment control.

The proposed project is not expected to alter rainfall drainage patterns or contaminate or otherwise adversely affect the public water supply, water treatment facilities, or water distribution systems.

The no-build alternative would not require any Section 404 permitting. The roadway would remain in its present condition and there would be no impacts to water quality.

#### 5.10.3 Executive Order 11990 Wetlands

EO 11990 does not apply to the proposed FM 2493 project because no wetlands would be impacted. Neither the build nor the no-build alternative would have an impact on wetlands.

#### 5.10.4 Rivers and Harbors Act

The proposed project would not cross a navigable waterway. Therefore, the project would not require a permit from the U.S. Coast Guard under section 9 of the River and Harbors Act or a permit from USACE under Section 10 of the Rivers and Harbors Act. Neither the build nor the no-build alternative would have an impact on navigable waterways.

# 5.10.5 Clean Water Act, Section 303(d)

The Texas Surface Water Quality Standards (TSWQS), which apply to all surface water features in the State, are promulgated in Title 30, Chapter 307, of the TAC. These standards are approved by the EPA in accordance with Section 303(c) of the CWA and updated every three years to accommodate new developments or updated information. In the State of Texas, water quality inventory information provided by the TSWQS is assimilated and grouped by river basin. To track water quality and compliance with the standards, the TCEQ's Surface Water Quality Monitoring Program further divides the State's larger surface water features in those river basins into defined (classified) segments and assesses them according to the criteria specified in the TSWQS. Smaller features, although not defined as segments, are likewise monitored, but sufficient data are not available to develop the more conventional criteria.

Formerly called the "Texas Water Quality Inventory and 303(d) List," the 2016 "Texas Integrated Report for CWA Sections 305(b) and 303(d)" or known simply as the "Integrated Report", evaluates the quality of surface waters in Texas, and provides resource managers with a tool for making informed decisions when directing agency programs.

Runoff from this project would not discharge directly into a Section 303(d) listed threatened or impaired water. The project is within 5 miles upstream of the impaired unit known as West Mud Creek (TX-0611D\_01) and would drain into West Mud Creek. West Mud Creek is impaired due to bacteria. West Mud Creek does not have EPA-approved Total Maximum Daily Loads (TMDLs) and the project will be implemented, operated and maintained using best management practices to control the discharge of pollutants from the project site. The 2016 Texas Integrated Report of Surface Water Quality for Clean Water Act, Sections 305(b) and 303(d) was utilized in this assessment.

TCEQ has not required (through either a TMDL or the review of projects under the TCEQ MOU) additional control measures, beyond those already required by the Construction General Permit (CGP), to mitigate the potential impact of road construction on impaired waters. Potential impacts on impaired waters from the operation of the road are addressed programmatically through TxDOT's MS4 program. Therefore, compliance with the CGP and TCEQ MOU currently

meet the need to address impaired waters issues during the NEPA process. Coordination with TCEQ is not required.

The no-build alternative would not require any construction activities. The roadway would remain in its present condition and there would be no impacts to water quality.

#### 5.10.6 Clean Water Act, Section 402

Since Texas Pollutant Discharge Elimination System (TPDES) CGP authorization and compliance (and the associated documentation) occur outside of the environmental clearance process, compliance is ensured by the policies and procedures that govern the design and construction phases of the project. The Project Development Process Manual and the Plans, Specifications, and Estimates (PS&E) Preparation Manual require a storm water pollution prevention plan (SWP3) be included in the plans of all projects that disturb one or more acres. The Construction Contract Administration Manual requires that the appropriate CGP authorization documents (notice of intent or site notice) be completed, posted, and submitted, when required by the CGP, to TCEQ and the municipal separate storm sewer system (MS4) operator. It also requires that projects be inspected to ensure compliance with the CGP.

The PS&E Preparation Manual requires that all projects include Standard Specification Item 506 (Temporary Erosion, Sedimentation, and Environmental Controls), and the "Required Specification Checklists" require Special Provision 506-003 on all projects that need authorization under the CGP. These documents require the project contractor to comply with the CGP and SWP3, and to complete the appropriate authorization documents.

This project would include five or more acres of earth disturbance. TxDOT would comply with the TCEQ-TPDES-CGP. A SW3P would be implemented, and a construction site notice would be posted on the construction site. A Notice of Intent (NOI) would be required.

#### 5.10.7 Floodplains

The proposed project would not cross a 100-year Federal Emergency Management Agency (FEMA) floodplain (**Appendix A – Exhibit C**). The hydraulic design for this project would be in accordance with current FHWA and TxDOT design policies. Adherence to the TxDOT Hydraulic Design Manual ensures that a project will not result in a significant encroachment as defined by FHWA's rules implementing EO 11988 at 23 CFR 650.15(q). Neither the build nor the no-build alternative would have an impact on FEMA floodplains.

#### 5.10.8 Wild and Scenic Rivers

This project would not involve work near any designated Wild and Scenic River; therefore, no impacts would occur. Neither the build nor the no-build alternative would have an impact on wild and scenic rivers.

#### 5.10.9 Coastal Barrier Resources

The Coastal Barrier Resources Act (CBRA) established the Coastal Barrier Resources System (CBRS) to protect a defined set of geographic units along the coast of the U.S. This project is

not located within a designated CBRA map unit. Coordination with the U.S. Fish and Wildlife Service (USFWS) is not required. Neither the build nor the no-build alternative would have an impact on coastal barrier resources.

# 5.10.10 Coastal Zone Management

This project is not located within the Texas Coastal Management Area. Neither the build nor the no-build alternative would have an impact on the coastal zone.

# 5.10.11 International Boundary and Water Commission

This project does not cross or encroach upon the floodplains of any U.S. International Boundary and Water Commission (USIBWC) flood control projects or ROW; therefore, a license or permit from the USIBWC is not needed. Neither the build nor the no-build alternative would have an impact on USIBWC projects or ROW.

# 5.10.12 Drinking Water Systems

There are several water wells located in the vicinity of the City of Bullard; however, there are no water wells located within the proposed project's ROW. No source water protection areas were identified within the project area. As discussed in Sections 5.10.2 and 5.10.11, BMPs and other design considerations would be implemented to ensure water quality impacts would be avoided or minimized to the maximum extent practicable and to prevent stormwater runoff from entering groundwater aquifers at wellheads. Neither the build nor the no-build alternative would have an impact on drinking water systems.

# 5.11 Biological Resources

A Biological Evaluation Form has been completed for the proposed project and is on file at TxDOT. The results are summarized below.

#### 5.11.1 Texas Parks and Wildlife Coordination

A Biological Evaluation Form was completed which contains a Tier I Site Assessment in accordance with TxDOT's 2013 MOU with TPWD to determine whether coordination with TPWD would be required for the proposed project. The result was that the proposed project did require coordination with TPWD. Coordination has been initiated on September 5, 2018, given clearance, and closed on October 4, 2018 (see **Appendix G**). A copy of the Biological Evaluation Form is on file at the Tyler District Office.

#### 5.11.2 Impacts on Vegetation

The project area was investigated for the presence of special habitat features and unusual vegetation features as identified by the TxDOT-TPWD MOU. Field investigations took place in April 2017 and July 2018. Vegetation types observed within the project area are accurately represented by the Ecological Mapping Systems of Texas (EMST) (MoRAP 2013). The project area is dominated by Pineywoods: Disturbance or Tame Grassland, Pineywoods: Upland Hardwood Forest, and Urban Low Intensity EMST vegetation types. The project area also includes relatively small areas of other types of Pineywoods vegetation.

No rare plant communities, as identified by the Texas Conservation Action Plan (TCAP), are mapped as occurring within or adjacent to the project area (TPWD, 2012). No special habitat features occur within the existing project ROW.

Unusual vegetation features identified within the project area include unmaintained vegetation composed primarily of the Pineywoods: Disturbance or Tame Grassland vegetation type in addition to riparian vegetation. Impacts to these vegetation features would be minimized to the extent practicable during the design phase of the project.

The no-build alternative would not require any removal or disturbance of vegetation. The roadway would remain in its present condition and there would be no impacts to vegetation.

#### 5.11.3 Executive Order 13112 on Invasive Species

This project is subject to and will comply with federal Executive Order 13112 on Invasive Species. The department implements this Executive Order on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual.

# 5.11.4 Executive Memorandum on Environmentally and Economically Beneficial Landscaping

This project is subject to and will comply with the federal Executive Memorandum on Environmentally and Economically Beneficial Landscaping, effective April 26, 1994. The department implements this Executive Memorandum on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual.

## 5.11.5 Impacts to Wildlife

Wildlife located within the vicinity of the project area may include those common species normally found in rural and urban areas. The species for this area may include squirrels, rabbits, raccoons, migratory songbirds, and various rodents. Other species could include opossums, frogs, lizards and snakes. Any disturbance beyond the normal conditions of the project area is expected to be limited to the immediate vicinity of construction of the proposed project.

The no-build alternative would not require any removal or disturbance of vegetation or wildlife. The roadway would remain in its present condition and there would be no impacts to vegetation or wildlife.

#### 5.11.6 Migratory Bird Treaty Act (MBTA)

The MBTA states that it is unlawful to kill, capture, collect, possess, buy, sell, trade, or transport any migratory bird, nest, young, feather, or egg in part or in whole, without a federal permit issued in accordance within the Act's policies and regulations. A site survey did not identify active nests within the project action area. TxDOT would take all appropriate actions to prevent the take of migratory birds, their active nests, eggs, or young using proper phasing of the project or other appropriate actions. A MBTA appropriate Environmental Permits, Issues, & Commitments (EPIC) will be included in the PS&E.

The no-build alternative would not require any removal or disturbance of migratory birds, their nest or their young. The roadway would remain in its present condition and there would be no impacts to migratory birds.

#### 5.11.7 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) of 1958 requires that federal agencies obtain comments from USFWS and TPWD. This coordination is required whenever a project involves impounding, diverting, or deepening a stream channel or other body of water. The proposed project is authorized under a Section 404 of the Clean Water Act Nationwide Permit; therefore, no coordination under the FWCA would be required.

The no-build alternative would not require permitting under Section 404. The roadway would remain in its present condition and there would be no impacts to any water bodies.

# 5.11.8 Bald and Golden Eagle Protection Act of 2007

The Bald and Golden Eagle Protection Act of 2007 applies to projects with the potential to take Bald or Golden Eagles. While the project is within the range of the Bald Eagle, suitable habitat is not present. Neither the build or the no-build alternative would impact the Bald or Golden Eagle.

# **5.11.9 Magnuson-Stevens Fishery Conservation Management Act**

Essential fish habitat is defined by the Magnuson-Stevens Fishery Conservation and Management Act (MSA) as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. Tidally influenced waters do not occur within the project action area. Coordination with National Marine Fisheries Service (NMFS) is not required. Neither the build nor the no-build alternative would have an impact on essential fish habitat.

#### 5.11.10 Marine Mammal Protection Act

Marine mammals are protected under the Marine Mammal Protection Act (MMPA). The project area does not contain suitable habitat for marine mammals. Coordination with NMFS is not required. Neither the build nor the no-build alternative would have an impact on marine mammals or their habitat.

#### 5.11.11 Threatened, Endangered and Candidate Species

The Endangered Species Act (ESA) affords protection for federally listed threatened and endangered species and their habitats. Species of Greatest Conservation Need (SGCNs) are designated by TPWD and may be either federally listed or state-listed species or have no regulatory listing status.

No suitable habitat was observed for any federally listed species; therefore, there would be no effect on federally listed species. However, measures to avoid harm to any threatened and endangered species would be taken should they be observed during construction of the proposed project. Coordination with the USFWS would not be required. The USFWS IPaC website was accessed on June 29, 2018.

The project is within range of and contains potentially suitable habitat for the following SGCNs: southeastern myotis bat (*Myotis austroriparius*) and Rafinesque's big-eared bat (*Corynorhinus rafinesquii*). However, no individuals of these species were identified during field investigations.

In accordance with the Best Management Practices Programmatic Agreement between TxDOT and TPWD Under the 2013 MOU, BMPs have been defined for implementation by TxDOT to minimize impacts to state-listed species and SGCNs. Table 2 lists those BMPs related to species that may have suitable habitat in the proposed project area.

Table 2: BMPs for State-Listed SGCNs

Species Name	ВМР
Bat Species	<ul> <li>All bat surveys will comply with TPWD recommended white-nose syndrome protocols.</li> <li>Habitat assessment by a qualified biologist to determine if bats are present.</li> <li>If bats are present, take appropriate measure as practicable to ensure that bats are not harmed such as exclusion or timing activities. For maternity colonies, exclusion activities should be time to avoid separating lactating females from nursing pups.</li> <li>If structures used by bats are removed as a result of construction, replacement structures should incorporate bat-friendly design, or artificial roosts should be constructed to replace these features as practicable.</li> </ul>

The no-build alternative would not require ROW or disturbance to adjacent habitat. The roadway would remain in its present condition and there would be no impacts to federal, candidate, or state listed species or SGCN species.

# 5.12 Air Quality

#### **5.12.1 Transportation Conformity**

This project is located in both Smith and Cherokee Counties which have been designated by the U.S. Environmental Protection Agency (EPA) as being in attainment or unclassifiable for all national ambient air quality standards (NAAQS); therefore, the transportation conformity rules do not apply.

#### 5.12.2 CO Traffic Air Quality Analysis (TAQA)

Traffic data for the estimated time of completion (ETC) year 2023 and design year 2045 is less than 140,000 vehicles per day (VPD). Between FM 346 and FM 344, the Average Daily Traffic in 2045 is estimated to be 11,800. Between FM 344 and US 69, the Average Daily Traffic in 2045 is estimated to be 7,300. A prior TxDOT modeling study and previous analyses of similar projects demonstrated that it is unlikely that a carbon monoxide standard would ever be exceeded because of any project with an Annual Average Daily Traffic (AADT) below 140,000. The AADT projections for the project do not exceed 140,000 vehicles per day; therefore, a Traffic Air Quality Analysis was not required.

#### 5.12.3 Mobile Source Air Toxics (MSATs)

#### Background

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<a href="http://www.epa.gov/iris/">http://www.epa.gov/iris/</a>). In addition, EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-cancer hazard contributors from the 2011 National Air Toxics Assessment (NATA) (<a href="https://www.epa.gov/national-air-toxics-assessment">https://www.epa.gov/national-air-toxics-assessment</a>). These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

Motor Vehicle Emissions Simulator (MOVES)

According to EPA, MOVES2014 is a major revision to MOVES2010 and improves upon it in many respects. MOVES2014 includes new data, new emissions standards, and new functional improvements and features. It incorporates substantial new data for emissions, fleet, and activity developed since the release of MOVES2010.

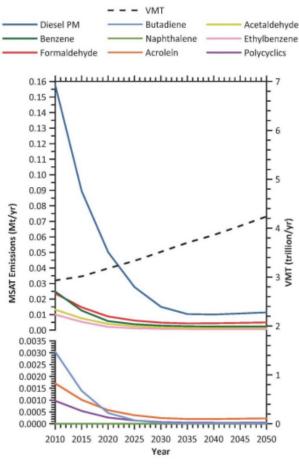
These new emissions data are for light- and heavy-duty vehicles, exhaust and evaporative emissions, and fuel effects. MOVES2014 also adds updated vehicle sales, population, age distribution, and vehicle miles travelled (VMT) data. MOVES2014 incorporates the effects of three new Federal emissions standard rules not included in MOVES2010.

These new standards are all expected to impact MSAT emissions and include Tier 3 emissions and fuel standards starting in 2017 (79 FR 60344), heavy-duty greenhouse gas regulations that phase in during model years 2014-2018 (79 FR 60344), and the second phase of light duty greenhouse gas regulations that phase in during model years 2017-2025 (79 FR 60344).

Since the release of MOVES2014, EPA has released MOVES2014a. In the November 2015 MOVES2014a Questions and Answers Guide (https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100NNR0.txt, EPA states that for on-road emissions, MOVES2014a adds new options requested by users for the input of local VMT, includes minor updates to the default fuel tables, and corrects an error in MOVES2014 brake wear emissions. The change in brake wear emissions results in small decreases in PM emissions, while emissions for other criteria pollutants remain essentially the same as MOVES2014.

Using EPA's MOVES2014a model, as shown in Figure 1, FHWA estimates that even if VMT increases by 45 percent from 2010 to 2050 as forecast, a combined reduction of 91 percent in the total annual emissions for the priority MSAT is projected for the same time period.

Figure 1:
PROJECTED NATIONAL MSAT EMISSION TRENDS 2010 – 2050 FOR VEHICLES
OPERATING ON ROADWAYS USING EPA's Moves2014a Model



Source: EPA MOVES2014a model runs conducted by FHWA, September 2016.

Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorological, and other factors.

Diesel PM is the dominant component of MSAT emissions, making up 50 to 70 percent of all priority MSAT pollutants by mass, depending on calendar year. Users of MOVES2014a will notice some differences in emissions compared with MOVES2010b. MOVES2014a is based on updated data on some emissions and pollutant processes compared to MOVES2010b, and also reflects the latest Federal emissions standards in place at the time of its release. In addition, MOVES2014a emissions forecasts are based on lower VMT projections than MOVES2010b, consistent with recent trends suggesting reduced nationwide VMT growth compared to historical trends.

#### MSAT Research

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how potential public health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA. The FHWA, EPA, the Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this field.

# **Project Specific MSAT Information**

A qualitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by FHWA entitled A Methodology for Evaluating Mobile Source Air Toxic Emissions among Transportation Project Alternatives, found at:

https://www.fhwa.dot.gov/environment/air quality/air toxics/research and analysis/mobile sour ce air toxics/msatemissions.cfm.

For each alternative in this document, the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for each of the Build Alternatives is slightly higher than that for the No Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions for the preferred action alternative along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to EPA's MOVES2014 model, emissions of all of the priority MSAT decrease as speed increases. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 90 percent between 2010 and 2050 (Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, October 12, 2016 —

http://www.fhwa.dot.gov/environment/air quality/air toxics/policy and guidance/msat/index.cfm ). Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The additional travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby homes, schools, and businesses; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT could be

higher under certain Build Alternatives than the No Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the expanded roadway sections that would be built between the towns of Flint and Bullard. However, the magnitude and the duration of these potential increases compared to the No Build alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. In sum, when a highway is widened, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause regionwide MSAT levels to be significantly lower than today.

# Incomplete or Unavailable Information for Project-Specific MSAT Health Impacts Analysis

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the IRIS, which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, <a href="http://www.epa.gov/iris/">http://www.epa.gov/iris/</a>). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). A number of HEI studies are summarized in Appendix D of FHWA's Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents

(http://www.fhwa.dot.gov/environment/air\_quality/air\_toxics/policy\_and\_guidance/msat/index.cf\_m). Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI Special Report 16, https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects) or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (Special Report 16, <a href="https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects">https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects</a>). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA states that with respect to diesel engine exhaust, "[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk (EPA IRIS database, Diesel Engine Exhaust, Section II.C.

https://cfpub.epa.gov/ncea/iris/iris documents/documents/subst/0642.htm#guainhal)."

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable

(https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/ \$file/07-1053-1120274.pdf).

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

#### Conclusion

In this document, a qualitative MSAT assessment has been provided relative to the various alternatives of MSAT emissions and has acknowledged that the build alternative may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated.

# **5.12.4 Congestion Management Process (CMP)**

This project is within an attainment or unclassifiable area for ozone and CO; therefore, a project level CMP analysis is not required.

#### **5.12.5 Construction Air Emissions**

During the construction phase of this project, temporary increases in PM and MSAT emissions may occur from construction activities. The primary construction-related emissions of PM are fugitive dust from site preparation, and the primary construction-related emissions of MSAT are diesel particulate matter from diesel powered construction equipment and vehicles.

The potential impacts of particulate matter emissions would be minimized by using fugitive dust control measures contained in standard specifications, as appropriate. The Texas Emissions Reduction Plan (TERP) provides financial incentives to reduce emissions from vehicles and equipment. TxDOT encourages construction contractors to use this and other local and federal incentive programs to the fullest extent possible to minimize diesel emissions. Information about the TERP program can be found at: http://www.tceq.texas.gov/airquality/terp/.

However, considering the temporary and transient nature of construction-related emissions, the use of fugitive dust control measures, the encouragement of the use of TERP, and compliance with applicable regulatory requirements; it is not anticipated that emissions from construction of this project will have any significant impact on air quality in the area.

#### 5.13 Hazardous Materials

A Hazardous Materials Initial Site Assessment (ISA) for the proposed project has been completed and filed with TxDOT. The site assessment was conducted for the proposed project to identify sites within the project area that may have experienced soil and/or groundwater contamination by hazardous materials. The assessment consisted of a regulatory/governmental agency database records review and an onsite investigation. The former Morrow Grocery located at FM 2493 and FM 346 in Flint was used as a grocery and conducted retail refueling. It

was demolished in January 2018. The Leaking Petroleum Storage Tank (LPST) case for this site was closed in 2006 and had documented groundwater contamination and depths of greater than 20 ft. below the surface. Although the site is adjacent to the proposed project, construction depth is would not impact the documented groundwater contamination and impacts to construction or risks to human health are unlikely. No other hazardous materials concerns were identified as a result of the ISA performed for the proposed action.

During any construction project, there exists the potential to encounter contaminated soil or water. Included in the contract would be the TxDOT standard specifications for construction that require the contractor to be familiar with and comply with all federal, state, and local laws, ordinances, and regulations related to the treatment and disposal of hazardous materials. Should hazardous materials/substances be encountered, the TxDOT Tyler District Office would be notified, and steps would be taken to protect personnel and the environment.

The contractor would respond appropriately to prevent, minimize, and control the spill of hazardous materials in the construction staging area. The use of construction equipment, particularly the storage of fuels and chemicals, within sensitive areas, including water resources such as floodplains and streams, would be minimized or eliminated. Any unanticipated hazardous materials and/or petroleum contamination encountered during construction would be handled according to applicable federal, state, and local regulations per TxDOT Standard Specifications. All construction materials used for this project would be removed as soon as work schedules permit.

The no-build alternative would not require ROW or disturbance to adjacent properties. The roadway would remain in its present condition and there would be no hazardous materials impacts.

#### 5.14 Traffic Noise

A traffic noise analysis was accomplished in accordance with TxDOT's (FHWA approved) Guidelines for Analysis and Abatement of Roadway Traffic Noise (2011). This analysis is documented in the Noise Technical Report which is on file at TxDOT.

As indicated in Table 3, the proposed project would result in traffic noise impacts. Maps showing noise receiver locations can be seen in **Appendix F**.

Table 3: Traffic Noise Levels dB(A)Leq

16.6.6.6.6.1.1.6.1.1.6.1.1.6.1.6.6.6.6.						
Receiver	NAC Category	NAC Level	Existing 2015	Predicted 2035	Change (+/-)	Noise Impact
R1 – Residence	В	67	53	56	3	No
R2 – Residence	В	67	58	61	3	No
R3 – Residence	В	67	57	61	4	No
R4 – Residence	В	67	57	60	3	No
R5 – Residence	В	67	56	59	3	No

R6 - Residence         B         67         57         60         3         No           R7 - Residence         B         67         63         62         -1         No           R9 - Residence         B         67         63         62         -1         No           R9 - Residence         B         67         48         54         6         No           R10 - Residence         B         67         61         61         0         No           R11 - Cemetery         C         67         57         59         2         No           R12 - Residence         B         67         54         60         6         No           R12 - Residence         B         67         53         56         3         No           R13 - Residence         B         67         63         63         0         No           R14 - Residence         B         67         62         63         1         No           R15 - Residence         B         67         60         61         1         No           R15 - Residence         B         67         59         59         0         No <tr< th=""><th>Receiver</th><th>NAC Category</th><th>NAC Level</th><th>Existing 2015</th><th>Predicted 2035</th><th>Change (+/-)</th><th>Noise Impact</th></tr<>	Receiver	NAC Category	NAC Level	Existing 2015	Predicted 2035	Change (+/-)	Noise Impact
R8 - Residence         B         67         63         62         -1         No           R9 - Residence         B         67         48         54         6         No           R10 - Residence         B         67         61         61         0         No           R11 - Cemetery         C         67         57         59         2         No           R11 - Cemetery         C         67         57         59         2         No           R12 - Residence         B         67         54         60         6         No           R13 - Residence         B         67         53         56         3         No           R14 - Residence         B         67         63         63         0         No           R15 - Residence         B         67         62         63         1         No           R16 - Residence         B         67         60         61         1         No           R17 - Residence         B         67         65         65         0         No           R18 - Residence         B         67         58         60         2         No <tr< td=""><td>R6 – Residence</td><td>В</td><td>67</td><td>57</td><td>60</td><td>3</td><td>No</td></tr<>	R6 – Residence	В	67	57	60	3	No
R9 - Residence         B         67         48         54         6         No           R10 - Residence         B         67         61         61         0         No           R11 - Cemetery         C         67         57         59         2         No           R12 - Residence         B         67         54         60         6         No           R13 - Residence         B         67         53         56         3         No           R14 - Residence         B         67         63         63         0         No           R15 - Residence         B         67         62         63         1         No           R16 - Residence         B         67         60         61         1         No           R16 - Residence         B         67         59         59         0         No           R16 - Residence         B         67         60         61         1         No           R17 - Residence         B         67         65         65         0         No           R19 - Residence         B         67         58         60         2         No <t< td=""><td>R7 – Residence</td><td>В</td><td>67</td><td>63</td><td>62</td><td>-1</td><td>No</td></t<>	R7 – Residence	В	67	63	62	-1	No
R10 - Residence         B         67         61         61         0         No           R11 - Cemetery         C         67         57         59         2         No           R12 - Residence         B         67         54         60         6         No           R13 - Residence         B         67         53         56         3         No           R14 - Residence         B         67         63         63         0         No           R15 - Residence         B         67         62         63         1         No           R16 - Residence         B         67         60         61         1         No           R17 - Residence         B         67         59         59         0         No           R18 - Residence         B         67         65         65         0         No           R19 - Residence         B         67         60         61         1         No           R20 - Residence         B         67         58         60         2         No           R21 - Residence         B         67         58         60         2         No      <	R8 – Residence	В	67	63	62	-1	No
R11 - Cemetery         C         67         57         59         2         No           R12 - Residence         B         67         54         60         6         No           R13 - Residence         B         67         53         56         3         No           R14 - Residence         B         67         63         63         0         No           R15 - Residence         B         67         62         63         1         No           R16 - Residence         B         67         60         61         1         No           R16 - Residence         B         67         60         61         1         No           R17 - Residence         B         67         65         65         0         No           R19 - Residence         B         67         60         61         1         No           R20 - Residence         B         67         58         60         2         No           R21 - Residence         B         67         58         60         2         No           R22 - Residence         B         67         57         57         0         No      <	R9 – Residence	В	67	48	54	6	No
R12 - Residence         B         67         54         60         6         No           R13 - Residence         B         67         53         56         3         No           R14 - Residence         B         67         63         63         0         No           R15 - Residence         B         67         62         63         1         No           R16 - Residence         B         67         60         61         1         No           R17 - Residence         B         67         59         59         0         No           R18 - Residence         B         67         65         65         0         No           R19 - Residence         B         67         60         61         1         No           R20 - Residence         B         67         58         60         2         No           R21 - Residence         B         67         58         60         2         No           R22 - Residence         B         67         57         57         0         No           R24 - Residence         B         67         56         58         2         No	R10 – Residence	В	67	61	61	0	No
R13 - Residence         B         67         53         56         3         No           R14 - Residence         B         67         63         63         0         No           R15 - Residence         B         67         62         63         1         No           R16 - Residence         B         67         60         61         1         No           R17 - Residence         B         67         59         59         0         No           R18 - Residence         B         67         65         65         0         No           R19 - Residence         B         67         60         61         1         No           R20 - Residence         B         67         58         60         2         No           R21 - Residence         B         67         58         60         2         No           R22 - Residence         B         67         57         57         0         No           R24 - Residence         B         67         56         58         2         No           R25 - Residence         B         67         56         58         2         No	R11 – Cemetery	С	67	57	59	2	No
R14 - Residence         B         67         63         63         0         No           R15 - Residence         B         67         62         63         1         No           R16 - Residence         B         67         60         61         1         No           R17 - Residence         B         67         59         59         0         No           R18 - Residence         B         67         65         65         0         No           R19 - Residence         B         67         60         61         1         No           R20 - Residence         B         67         58         60         2         No           R21 - Residence         B         67         58         60         2         No           R21 - Residence         B         67         58         60         2         No           R22 - Residence         B         67         57         57         0         No           R24 - Residence         B         67         56         58         2         No           R25 - Residence         B         67         56         59         3         No	R12 – Residence	В	67	54	60	6	No
R15 - Residence         B         67         62         63         1         No           R16 - Residence         B         67         60         61         1         No           R17 - Residence         B         67         59         59         0         No           R18 - Residence         B         67         65         65         0         No           R19 - Residence         B         67         60         61         1         No           R20 - Residence         B         67         58         60         2         No           R21 - Residence         B         67         58         60         2         No           R22 - Residence         B         67         58         60         2         No           R22 - Residence         B         67         57         57         0         No           R24 - Residence         B         67         56         58         2         No           R25 - Residence         B         67         56         58         2         No           R27 - Residence         B         67         56         59         3         No	R13 – Residence	В	67	53	56	3	No
R16 - Residence         B         67         60         61         1         No           R17 - Residence         B         67         59         59         0         No           R18 - Residence         B         67         65         65         0         No           R19 - Residence         B         67         60         61         1         No           R20 - Residence         B         67         58         60         2         No           R21 - Residence         B         67         52         59         7         No           R22 - Residence         B         67         58         60         2         No           R22 - Residence         B         67         57         57         0         No           R24 - Residence         B         67         56         58         2         No           R25 - Residence         B         67         56         58         2         No           R26 - Residence         B         67         56         59         3         No           R27 - Residence         B         67         56         59         3         No	R14 – Residence	В	67	63	63	0	No
R17 - Residence         B         67         59         59         0         No           R18 - Residence         B         67         65         65         0         No           R19 - Residence         B         67         60         61         1         No           R20 - Residence         B         67         58         60         2         No           R21 - Residence         B         67         52         59         7         No           R22 - Residence         B         67         58         60         2         No           R23 - Residence         B         67         57         57         0         No           R24 - Residence         B         67         57         58         1         No           R25 - Residence         B         67         56         58         2         No           R26 - Residence         B         67         56         58         2         No           R27 - Residence         B         67         56         59         3         No           R28 - Residence         B         67         59         60         1         No	R15 – Residence	В	67	62	63	1	No
R18 – Residence         B         67         65         65         0         No           R19 – Residence         B         67         60         61         1         No           R20 – Residence         B         67         58         60         2         No           R21 – Residence         B         67         52         59         7         No           R22 – Residence         B         67         58         60         2         No           R23 – Residence         B         67         57         57         0         No           R24 – Residence         B         67         57         58         1         No           R25 – Residence         B         67         56         58         2         No           R26 – Residence         B         67         56         58         2         No           R27 – Residence         B         67         56         59         3         No           R28 – Residence         B         67         59         60         1         No           R30 – Residence         B         67         68         64         -4         No	R16 – Residence	В	67	60	61	1	No
R19 – Residence         B         67         60         61         1         No           R20 – Residence         B         67         58         60         2         No           R21 – Residence         B         67         52         59         7         No           R22 – Residence         B         67         58         60         2         No           R23 – Residence         B         67         57         57         0         No           R24 – Residence         B         67         57         58         1         No           R25 – Residence         B         67         56         58         2         No           R26 – Residence         B         67         56         59         3         No           R27 – Residence         B         67         56         59         3         No           R28 – Residence         B         67         59         60         1         No           R30 – Residence         B         67         68         64         -4         No           R31 – Residence         B         67         65         63         -2         No	R17 – Residence	В	67	59	59	0	No
R20 – Residence         B         67         58         60         2         No           R21 – Residence         B         67         52         59         7         No           R22 – Residence         B         67         58         60         2         No           R23 – Residence         B         67         57         57         0         No           R24 – Residence         B         67         57         58         1         No           R25 – Residence         B         67         56         58         2         No           R26 – Residence         B         67         56         59         3         No           R27 – Residence         B         67         56         59         3         No           R28 – Residence         B         67         57         59         2         No           R29 – Residence         B         67         59         60         1         No           R31 – Residence         B         67         68         64         -4         No           R32 – Residence         B         67         65         63         -2         No	R18 – Residence	В	67	65	65	0	No
R21 – Residence         B         67         52         59         7         No           R22 – Residence         B         67         58         60         2         No           R23 – Residence         B         67         57         57         0         No           R24 – Residence         B         67         57         58         1         No           R25 – Residence         B         67         56         58         2         No           R26 – Residence         B         67         56         59         1         No           R27 – Residence         B         67         56         59         3         No           R28 – Residence         B         67         57         59         2         No           R29 – Residence         B         67         59         60         1         No           R30 – Residence         B         67         68         64         -4         No           R31 – Residence         B         67         65         63         -2         No           R33 – Residence         B         67         66         64         -2         No	R19 – Residence	В	67	60	61	1	No
R22 - Residence         B         67         58         60         2         No           R23 - Residence         B         67         57         57         0         No           R24 - Residence         B         67         57         58         1         No           R25 - Residence         B         67         56         58         2         No           R26 - Residence         B         67         56         59         3         No           R27 - Residence         B         67         56         59         3         No           R28 - Residence         B         67         57         59         2         No           R29 - Residence         B         67         59         60         1         No           R30 - Residence         B         67         68         64         -4         No           R31 - Residence         B         67         65         63         -2         No           R32 - Residence         B         67         66         63         -3         No           R34 - Residence         B         67         66         64         -2         No	R20 – Residence	В	67	58	60	2	No
R23 - Residence         B         67         57         57         0         No           R24 - Residence         B         67         57         58         1         No           R25 - Residence         B         67         56         58         2         No           R26 - Residence         B         67         58         59         1         No           R27 - Residence         B         67         56         59         3         No           R28 - Residence         B         67         57         59         2         No           R29 - Residence         B         67         59         60         1         No           R30 - Residence         B         67         68         64         -4         No           R31 - Residence         B         67         65         63         -2         No           R32 - Residence         B         67         65         63         -2         No           R34 - Residence         B         67         66         64         -2         No           R35 - Residence         B         67         66         64         -2         No	R21 – Residence	В	67	52	59	7	No
R24 - Residence       B       67       57       58       1       No         R25 - Residence       B       67       56       58       2       No         R26 - Residence       B       67       58       59       1       No         R27 - Residence       B       67       56       59       3       No         R28 - Residence       B       67       57       59       2       No         R29 - Residence       B       67       59       60       1       No         R30 - Residence       B       67       68       64       -4       No         R31 - Residence       B       67       65       63       -2       No         R32 - Residence       B       67       66       63       -3       No         R34 - Residence       B       67       66       64       -2       No         R35 - Residence       B       67       58       61       3       No         R37 - Residence       B       67       66       64       -2       No         R38 - Residence       B       67       61       63       2       No	R22 – Residence	В	67	58	60	2	No
R25 - Residence         B         67         56         58         2         No           R26 - Residence         B         67         58         59         1         No           R27 - Residence         B         67         56         59         3         No           R28 - Residence         B         67         57         59         2         No           R29 - Residence         B         67         59         60         1         No           R30 - Residence         B         67         68         64         -4         No           R31 - Residence         B         67         65         63         -2         No           R32 - Residence         B         67         66         63         -3         No           R33 - Residence         B         67         66         64         -2         No           R35 - Residence         B         67         66         64         -2         No           R36 - Residence         B         67         58         61         3         No           R37 - Residence         B         67         61         63         2         No	R23 – Residence	В	67	57	57	0	No
R26 - Residence       B       67       58       59       1       No         R27 - Residence       B       67       56       59       3       No         R28 - Residence       B       67       57       59       2       No         R29 - Residence       B       67       59       60       1       No         R30 - Residence       B       67       68       64       -4       No         R31 - Residence       B       67       65       63       -2       No         R32 - Residence       B       67       66       63       -3       No         R33 - Residence       B       67       66       64       -2       No         R35 - Residence       B       67       66       64       -2       No         R36 - Residence       B       67       58       61       3       No         R37 - Residence       B       67       61       63       2       No         R38 - Residence       B       67       59       63       4       No	R24 – Residence	В	67	57	58	1	No
R27 - Residence       B       67       56       59       3       No         R28 - Residence       B       67       57       59       2       No         R29 - Residence       B       67       59       60       1       No         R30 - Residence       B       67       68       64       -4       No         R31 - Residence       B       67       65       63       -2       No         R32 - Residence       B       67       66       63       -3       No         R33 - Residence       B       67       65       63       -2       No         R34 - Residence       B       67       66       64       -2       No         R35 - Residence       B       67       58       61       3       No         R37 - Residence       B       67       61       63       2       No         R38 - Residence       B       67       59       63       4       No	R25 – Residence	В	67	56	58	2	No
R28 – Residence       B       67       57       59       2       No         R29 – Residence       B       67       59       60       1       No         R30 – Residence       B       67       68       64       -4       No         R31 – Residence       B       67       65       63       -2       No         R32 – Residence       B       67       66       63       -3       No         R33 – Residence       B       67       65       63       -2       No         R34 – Residence       B       67       66       64       -2       No         R35 – Residence       B       67       58       61       3       No         R37 – Residence       B       67       61       63       2       No         R38 – Residence       B       67       59       63       4       No	R26 – Residence	В	67	58	59	1	No
R29 - Residence       B       67       59       60       1       No         R30 - Residence       B       67       68       64       -4       No         R31 - Residence       B       67       65       63       -2       No         R32 - Residence       B       67       66       63       -3       No         R33 - Residence       B       67       65       63       -2       No         R34 - Residence       B       67       66       64       -2       No         R35 - Residence       B       67       66       64       -2       No         R37 - Residence       B       67       58       61       3       No         R37 - Residence       B       67       61       63       2       No         R38 - Residence       B       67       59       63       4       No	R27 – Residence	В	67	56	59	3	No
R30 – Residence       B       67       68       64       -4       No         R31 – Residence       B       67       65       63       -2       No         R32 – Residence       B       67       66       63       -3       No         R33 – Residence       B       67       65       63       -2       No         R34 – Residence       B       67       66       64       -2       No         R35 – Residence       B       67       58       61       3       No         R37 – Residence       B       67       61       63       2       No         R38 – Residence       B       67       59       63       4       No	R28 – Residence	В	67	57	59	2	No
R31 – Residence       B       67       65       63       -2       No         R32 – Residence       B       67       66       63       -3       No         R33 – Residence       B       67       65       63       -2       No         R34 – Residence       B       67       66       64       -2       No         R35 – Residence       B       67       58       61       3       No         R37 – Residence       B       67       61       63       2       No         R38 – Residence       B       67       59       63       4       No	R29 – Residence	В	67	59	60	1	No
R32 – Residence       B       67       66       63       -3       No         R33 – Residence       B       67       65       63       -2       No         R34 – Residence       B       67       66       64       -2       No         R35 – Residence       B       67       66       64       -2       No         R36 – Residence       B       67       58       61       3       No         R37 – Residence       B       67       61       63       2       No         R38 – Residence       B       67       59       63       4       No	R30 – Residence	В	67	68	64	-4	No
R33 – Residence       B       67       65       63       -2       No         R34 – Residence       B       67       66       64       -2       No         R35 – Residence       B       67       66       64       -2       No         R36 – Residence       B       67       58       61       3       No         R37 – Residence       B       67       61       63       2       No         R38 – Residence       B       67       59       63       4       No	R31 – Residence	В	67	65	63	-2	No
R34 – Residence       B       67       66       64       -2       No         R35 – Residence       B       67       66       64       -2       No         R36 – Residence       B       67       58       61       3       No         R37 – Residence       B       67       61       63       2       No         R38 – Residence       B       67       59       63       4       No	R32 – Residence	В	67	66	63	-3	No
R35 – Residence       B       67       66       64       -2       No         R36 – Residence       B       67       58       61       3       No         R37 – Residence       B       67       61       63       2       No         R38 – Residence       B       67       59       63       4       No	R33 – Residence	В	67	65	63	-2	No
R36 – Residence       B       67       58       61       3       No         R37 – Residence       B       67       61       63       2       No         R38 – Residence       B       67       59       63       4       No	R34 – Residence	В	67	66	64	-2	No
R37 – Residence       B       67       61       63       2       No         R38 – Residence       B       67       59       63       4       No	R35 – Residence	В	67	66	64	-2	No
R38 – Residence B 67 59 63 4 No	R36 – Residence	В	67	58	61	3	No
	R37 – Residence	В	67	61	63	2	No
R39 – Residence B 67 58 64 6 No	R38 – Residence	В	67	59	63	4	No
	R39 – Residence	В	67	58	64	6	No

Receiver	NAC Category	NAC Level	Existing 2015	Predicted 2035	Change (+/-)	Noise Impact
R40 – Residence	В	67	59	61	2	No
R41 – Residence	В	67	58	61	3	No
R42 – Residence	В	67	60	62	2	No
R43 – Residence	В	67	57	60	3	No
R44 – Residence	В	67	57	60	3	No
R45 – Residence	В	67	55	61	6	No
R46 – Residence	В	67	58	61	3	No
R47 – Residence	В	67	58	61	3	No
R48 – Residence	В	67	53	58	5	No
R49 – Residence	В	67	53	57	4	No
R50 – Residence	В	67	58	60	2	No
R51 – Residence	В	67	63	64	1	No
R52 – Residence	В	67	52	57	5	No
R53 – Residence	В	67	57	60	3	No
R54 – Residence	В	67	50	54	4	No
R55 – Residence	В	67	57	60	3	No
R56 – Residence	В	67	51	55	4	No
R57 – Residence	В	67	60	62	2	No
R58 – Residence	В	67	54	59	5	No
R59 – Residence	В	67	53	58	5	No
R60 – Residence	В	67	52	59	7	No
R61 - Golf Course	С	67	55	59	4	No
R62 – Residence	В	67	59	65	6	No
R63 – Residence	В	67	58	64	6	No
R64 – Residence	В	67	57	63	6	No
R65 – Residence	В	67	59	65	6	No
R66 – Residence	В	67	54	61	7	No
R67 – Residence	В	67	53	60	7	No
R68 – Residence	В	67	52	58	6	No
R69 – Residence	В	67	51	58	7	No
R70 – Residence	В	67	51	58	7	No
R71 – Residence	В	67	64	63	-1	No
R72 – Residence	В	67	63	64	1	No
R73 – School	С	67	53	60	7	No

R74 - Residence         B         67         58         61         3         No           R75 - Residence         B         67         46         50         4         No           R76 - Residence         B         67         57         61         4         No           R77 - Residence         B         67         54         59         5         No           R77 - Residence         B         67         54         59         5         No           R79 - Park         C         67         57         64         7         No           R80 - Park         C         67         54         61         7         No           R81 - Residence         B         67         65         65         0         No           R81 - Residence         B         67         65         65         0         No           R82 - Residence         B         67         57         61         4         No           R84 - Residence         B         67         48         55         7         No           R85 - Residence         B         67         58         61         3         No	Receiver	NAC Category	NAC Level	Existing 2015	Predicted 2035	Change (+/-)	Noise Impact
R76 - Residence         B         67         57         61         4         No           R77 - Residence         B         67         54         59         5         No           R78 - Church (Inside)         D         52         30         36         6         No           R79 - Park         C         67         57         64         7         No           R80 - Park         C         67         54         61         7         No           R81 - Residence         B         67         65         65         0         No           R82 - Residence         B         67         65         65         0         No           R83 - Residence         B         67         65         65         0         No           R85 - Residence         B         67         48         55         7         No           R86 - Residence         B         67         48         55         7         No           R87 - Residence         B         67         58         61         3         No           R89 - Residence         B         67         58         61         3         No	R74 – Residence	В	67	58	61	3	No
R77 - Residence         B         67         54         59         5         No           R78 - Church (Inside)         D         52         30         36         6         No           R79 - Park         C         67         57         64         7         No           R80 - Park         C         67         54         61         7         No           R81 - Residence         B         67         65         65         0         No           R82 - Residence         B         67         65         65         0         No           R83 - Residence         B         67         57         61         4         No           R85 - Residence         B         67         48         55         7         No           R86 - Residence         B         67         48         55         7         No           R87 - Restaurant         E         72         63         64         1         No           R88 - Residence         B         67         58         61         3         No           R89 - Residence         B         67         51         60         9         No <tr< td=""><td>R75 – Residence</td><td>В</td><td>67</td><td>46</td><td>50</td><td>4</td><td>No</td></tr<>	R75 – Residence	В	67	46	50	4	No
R78 - Church (Inside)         D         52         30         36         6         No           R79 - Park         C         67         57         64         7         No           R80 - Park         C         67         54         61         7         No           R81 - Residence         B         67         55         65         0         No           R82 - Residence         B         67         65         65         0         No           R83 - Residence         B         67         57         61         4         No           R85 - Residence         B         67         48         55         7         No           R86 - Residence         B         67         48         55         7         No           R87 - Restaurant         E         72         63         64         1         No           R88 - Residence         B         67         58         61         3         No           R89 - Residence         B         67         51         60         9         No           R90 - Bar         E         72         52         60         8         No	R76 – Residence	В	67	57	61	4	No
R79 - Park         C         67         57         64         7         No           R80 - Park         C         67         54         61         7         No           R81 - Residence         B         67         65         65         0         No           R82 - Residence         B         67         65         65         0         No           R83 - Residence         B         67         65         65         0         No           R84 - Residence         B         67         57         61         4         No           R85 - Residence         B         67         48         55         7         No           R86 - Residence         B         67         48         55         7         No           R87 - Residence         B         67         48         55         7         No           R87 - Residence         B         67         58         61         3         No           R89 - Residence         B         67         58         61         3         No           R90 - Bar         E         72         52         60         8         No <td< td=""><td>R77 – Residence</td><td>В</td><td>67</td><td>54</td><td>59</td><td>5</td><td>No</td></td<>	R77 – Residence	В	67	54	59	5	No
R80 – Park         C         67         54         61         7         No           R81 – Residence         B         67         65         65         0         No           R82 – Residence         B         67         65         65         0         No           R83 – Residence         B         67         65         65         0         No           R84 – Residence         B         67         57         61         4         No           R85 – Residence         B         67         48         55         7         No           R86 – Residence         B         67         48         55         7         No           R87 – Restaurant         E         72         63         64         1         No           R88 – Residence         B         67         58         61         3         No           R89 – Residence         B         67         51         60         9         No           R90 – Bar         E         72         52         60         8         No           R91 – Residence         B         67         54         58         4         No	R78 - Church (Inside)	D	52	30	36	6	No
R81 - Residence         B         67         65         65         0         No           R82 - Residence         B         67         65         65         0         No           R83 - Residence         B         67         65         65         0         No           R84 - Residence         B         67         57         61         4         No           R85 - Residence         B         67         48         55         7         No           R86 - Residence         B         67         48         55         7         No           R87 - Residence         B         67         58         61         3         No           R88 - Residence         B         67         58         61         3         No           R89 - Residence         B         67         51         60         9         No           R90 - Bar         E         72         52         60         8         No           R91 - Residence         B         67         51         60         9         No           R92 - Church (Inside)         D         52         28         35         7         No	R79 – Park	С	67	57	64	7	No
R82 - Residence         B         67         65         65         0         No           R83 - Residence         B         67         65         65         0         No           R84 - Residence         B         67         57         61         4         No           R85 - Residence         B         67         48         55         7         No           R86 - Residence         B         67         48         55         7         No           R87 - Residence         B         67         48         55         7         No           R87 - Residence         B         67         58         61         3         No           R88 - Residence         B         67         58         61         3         No           R89 - Residence         B         67         51         60         9         No           R90 - Bar         E         72         52         60         8         No           R91 - Residence         B         67         51         60         9         No           R91 - Residence         B         67         54         58         4         No	R80 – Park	С	67	54	61	7	No
R83 – Residence         B         67         65         65         0         No           R84 – Residence         B         67         57         61         4         No           R85 – Residence         B         67         48         55         7         No           R86 – Residence         B         67         48         55         7         No           R87 – Restaurant         E         72         63         64         1         No           R88 – Residence         B         67         58         61         3         No           R89 – Residence         B         67         51         60         9         No           R90 – Bar         E         72         52         60         8         No           R91 – Restaurant         E         72         52         60         8         No           R91 – Restaurant         E         72         64         64         0         No           R92 – Church (Inside)         D         52         28         35         7         No           R93 – Residence         B         67         54         58         4         No	R81 – Residence	В	67	65	65	0	No
R84 - Residence         B         67         57         61         4         No           R85 - Residence         B         67         48         55         7         No           R86 - Residence         B         67         48         55         7         No           R87 - Restaurant         E         72         63         64         1         No           R88 - Residence         B         67         58         61         3         No           R89 - Residence         B         67         51         60         9         No           R90 - Bar         E         72         52         60         8         No           R91 - Restaurant         E         72         64         64         0         No           R92 - Church (Inside)         D         52         28         35         7         No           R93 - Residence         B         67         54         58         4         No           R94 - Residence         B         67         53         61         3         No           R95 - Residence         B         67         53         59         6         No	R82 – Residence	В	67	65	65	0	No
R85 - Residence         B         67         48         55         7         No           R86 - Residence         B         67         48         55         7         No           R87 - Restaurant         E         72         63         64         1         No           R88 - Residence         B         67         58         61         3         No           R89 - Residence         B         67         51         60         9         No           R90 - Bar         E         72         52         60         8         No           R91 - Residence         E         72         52         60         8         No           R91 - Residence         B         67         54         64         0         No           R92 - Church (Inside)         D         52         28         35         7         No           R93 - Residence         B         67         54         58         4         No           R94 - Residence         B         67         51         57         6         No           R95 - Residence         B         67         53         59         6         No	R83 – Residence	В	67	65	65	0	No
R86 - Residence         B         67         48         55         7         No           R87 - Restaurant         E         72         63         64         1         No           R88 - Residence         B         67         58         61         3         No           R89 - Residence         B         67         51         60         9         No           R90 - Bar         E         72         52         60         8         No           R91 - Residence         E         72         52         60         8         No           R91 - Residench (Inside)         D         52         28         35         7         No           R92 - Church (Inside)         D         52         28         35         7         No           R93 - Residence         B         67         54         58         4         No           R94 - Residence         B         67         51         57         6         No           R95 - Residence         B         67         53         59         6         No           R97 - Residence         B         67         53         59         6         No	R84 – Residence	В	67	57	61	4	No
R87 - Restaurant         E         72         63         64         1         No           R88 - Residence         B         67         58         61         3         No           R89 - Residence         B         67         51         60         9         No           R90 - Bar         E         72         52         60         8         No           R91 - Restaurant         E         72         64         64         0         No           R91 - Restaurant         E         72         64         64         0         No           R92 - Church (Inside)         D         52         28         35         7         No           R93 - Residence         B         67         54         58         4         No           R94 - Residence         B         67         58         61         3         No           R95 - Residence         B         67         51         57         6         No           R97 - Residence         B         67         53         59         6         No           R99 - Residence         B         67         56         61         5         No	R85 – Residence	В	67	48	55	7	No
R88 - Residence         B         67         58         61         3         No           R89 - Residence         B         67         51         60         9         No           R90 - Bar         E         72         52         60         8         No           R91 - Restaurant         E         72         64         64         0         No           R92 - Church (Inside)         D         52         28         35         7         No           R93 - Residence         B         67         54         58         4         No           R94 - Residence         B         67         58         61         3         No           R95 - Residence         B         67         51         57         6         No           R96 - Residence         B         67         53         59         6         No           R97 - Residence         B         67         56         61         5         No           R98 - Residence         B         67         56         61         5         No           R99 - Residence         B         67         54         58         4         No	R86 – Residence	В	67	48	55	7	No
R89 - Residence         B         67         51         60         9         No           R90 - Bar         E         72         52         60         8         No           R91 - Restaurant         E         72         64         64         0         No           R92 - Church (Inside)         D         52         28         35         7         No           R93 - Residence         B         67         54         58         4         No           R94 - Residence         B         67         58         61         3         No           R95 - Residence         B         67         51         57         6         No           R96 - Residence         B         67         53         59         6         No           R97 - Residence         B         67         53         59         6         No           R98 - Residence         B         67         53         57         4         No           R99 - Residence         B         67         54         58         4         No           R100 - Residence         B         67         54         58         4         No	R87 – Restaurant	Е	72	63	64	1	No
R90 – Bar         E         72         52         60         8         No           R91 – Restaurant         E         72         64         64         0         No           R92 – Church (Inside)         D         52         28         35         7         No           R93 – Residence         B         67         54         58         4         No           R94 – Residence         B         67         58         61         3         No           R95 – Residence         B         67         51         57         6         No           R97 – Residence         B         67         53         59         6         No           R98 – Residence         B         67         53         59         6         No           R99 – Residence         B         67         53         57         4         No           R100 – Residence         B         67         54         58         4         No           R101 – Residence         B         67         54         57         3         No           R102 – Residence         B         67         54         57         3         No	R88 – Residence	В	67	58	61	3	No
R91 - Restaurant         E         72         64         64         0         No           R92 - Church (Inside)         D         52         28         35         7         No           R93 - Residence         B         67         54         58         4         No           R94 - Residence         B         67         58         61         3         No           R95 - Residence         B         67         51         57         6         No           R96 - Residence         B         67         53         59         6         No           R97 - Residence         B         67         53         59         6         No           R98 - Residence         B         67         56         61         5         No           R99 - Residence         B         67         53         57         4         No           R100 - Residence         B         67         54         58         4         No           R101 - Residence         B         67         54         57         3         No           R102 - Residence         B         67         54         57         3         No	R89 – Residence	В	67	51	60	9	No
R92 - Church (Inside)         D         52         28         35         7         No           R93 - Residence         B         67         54         58         4         No           R94 - Residence         B         67         58         61         3         No           R95 - Residence         B         67         51         57         6         No           R96 - Residence         B         67         53         59         6         No           R97 - Residence         B         67         53         59         6         No           R98 - Residence         B         67         56         61         5         No           R99 - Residence         B         67         53         57         4         No           R100 - Residence         B         67         54         58         4         No           R101 - Residence         B         67         54         58         4         No           R102 - Residence         B         67         54         57         3         No           R103 - School         C         67         51         57         6         No <td>R90 – Bar</td> <td>E</td> <td>72</td> <td>52</td> <td>60</td> <td>8</td> <td>No</td>	R90 – Bar	E	72	52	60	8	No
R93 – Residence       B       67       54       58       4       No         R94 – Residence       B       67       58       61       3       No         R95 – Residence       B       67       51       57       6       No         R96 – Residence       B       67       53       59       6       No         R97 – Residence       B       67       53       59       6       No         R98 – Residence       B       67       56       61       5       No         R99 – Residence       B       67       53       57       4       No         R100 – Residence       B       67       54       58       4       No         R101 – Residence       B       67       54       57       3       No         R102 – Residence       B       67       54       57       3       No         R103 – School       C       67       51       57       6       No         R104 – Residence       B       67       58       59       1       No	R91 – Restaurant	Е	72	64	64	0	No
R94 – Residence       B       67       58       61       3       No         R95 – Residence       B       67       51       57       6       No         R96 – Residence       B       67       53       59       6       No         R97 – Residence       B       67       53       59       6       No         R98 – Residence       B       67       56       61       5       No         R99 – Residence       B       67       53       57       4       No         R100 – Residence       B       67       54       58       4       No         R101 – Residence       B       67       54       57       3       No         R102 – Residence       B       67       54       57       3       No         R103 – School       C       67       51       57       6       No         R104 – Residence       B       67       58       59       1       No	R92 – Church (Inside)	D	52	28	35	7	No
R95 – Residence       B       67       51       57       6       No         R96 – Residence       B       67       53       59       6       No         R97 – Residence       B       67       53       59       6       No         R98 – Residence       B       67       56       61       5       No         R99 – Residence       B       67       53       57       4       No         R100 – Residence       B       67       54       58       4       No         R101 – Residence       B       67       54       57       3       No         R102 – Residence       B       67       54       57       3       No         R103 – School       C       67       51       57       6       No         R104 – Residence       B       67       58       59       1       No	R93 – Residence	В	67	54	58	4	No
R96 – Residence       B       67       53       59       6       No         R97 – Residence       B       67       53       59       6       No         R98 – Residence       B       67       56       61       5       No         R99 – Residence       B       67       53       57       4       No         R100 – Residence       B       67       54       58       4       No         R101 – Residence       B       67       53       57       4       No         R102 – Residence       B       67       54       57       3       No         R103 – School       C       67       51       57       6       No         R104 – Residence       B       67       58       59       1       No	R94 – Residence	В	67	58	61	3	No
R97 - Residence       B       67       53       59       6       No         R98 - Residence       B       67       56       61       5       No         R99 - Residence       B       67       53       57       4       No         R100 - Residence       B       67       54       58       4       No         R101 - Residence       B       67       53       57       4       No         R102 - Residence       B       67       54       57       3       No         R103 - School       C       67       51       57       6       No         R104 - Residence       B       67       58       59       1       No	R95 – Residence	В	67	51	57	6	No
R98 – Residence       B       67       56       61       5       No         R99 – Residence       B       67       53       57       4       No         R100 – Residence       B       67       54       58       4       No         R101 – Residence       B       67       53       57       4       No         R102 – Residence       B       67       54       57       3       No         R103 – School       C       67       51       57       6       No         R104 – Residence       B       67       58       59       1       No	R96 – Residence	В	67	53	59	6	No
R99 – Residence       B       67       53       57       4       No         R100 – Residence       B       67       54       58       4       No         R101 – Residence       B       67       53       57       4       No         R102 – Residence       B       67       54       57       3       No         R103 – School       C       67       51       57       6       No         R104 – Residence       B       67       58       59       1       No	R97 – Residence	В	67	53	59	6	No
R100 – Residence       B       67       54       58       4       No         R101 – Residence       B       67       53       57       4       No         R102 – Residence       B       67       54       57       3       No         R103 – School       C       67       51       57       6       No         R104 – Residence       B       67       58       59       1       No	R98 – Residence	В	67	56	61	5	No
R101 – Residence       B       67       53       57       4       No         R102 – Residence       B       67       54       57       3       No         R103 – School       C       67       51       57       6       No         R104 – Residence       B       67       58       59       1       No	R99 – Residence	В	67	53	57	4	No
R102 – Residence       B       67       54       57       3       No         R103 – School       C       67       51       57       6       No         R104 – Residence       B       67       58       59       1       No	R100 – Residence	В	67	54	58	4	No
R103 – School       C       67       51       57       6       No         R104 – Residence       B       67       58       59       1       No	R101 – Residence	В	67	53	57	4	No
R104 – Residence B 67 58 59 1 No	R102 – Residence	В	67	54	57	3	No
	R103 – School	С	67	51	57	6	No
R105 – Residence B 67 60 60 0 No	R104 – Residence	В	67	58	59	1	No
Trice Residence	R105 – Residence	В	67	60	60	0	No
R106 – Residence B 67 55 59 4 No	R106 – Residence	В	67	55	59	4	No
R107 – Residence B 67 53 56 3 No	R107 – Residence	В	67	53	56	3	No

Receiver	NAC Category	NAC Level	Existing 2015	Predicted 2035	Change (+/-)	Noise Impact
R108 – Church (Inside)	D	52	31	37	6	No
R109 – Residence	В	67	55	58	3	No
R110 – Cemetery	С	67	66	64	-2	No
R111 – Residence	В	67	58	61	3	No
R112 – Residence	В	67	59	61	2	No
R113 – Residence	В	67	57	62	5	No
R114 – Residence	В	67	50	54	4	No
R115 – Residence	В	67	61	64	3	No
R116 – Residence	В	67	61	64	3	No
R117 – Residence	В	67	64	65	1	No
R118 – RV Park	С	67	60	63	3	No
R119 – Residence	В	67	54	56	2	No
R120 – Residence	В	67	65	69	4	Yes
R121 – Residence	В	67	55	58	3	No
R122 – Residence	В	67	60	63	3	No
R123 – Residence	В	67	64	67	3	Yes

The following noise abatement measures were considered: traffic management, alteration of horizontal and/or vertical alignments, acquisition of undeveloped property to act as a buffer zone and the construction of noise barriers.

Before any abatement measure can be proposed for incorporation into the project, it must be both feasible and reasonable. In order to be "feasible," the abatement measure must be able to reduce the noise level at greater than 50% of impacted, first row receivers by at least five dB(A); and to be "reasonable," it must not exceed the cost-effectiveness criterion of \$25,000 for each receiver that would benefit by a reduction of at least five dB(A) and the abatement measure must be able to reduce the noise level at least one impacted, first row receiver by at least seven dB(A).

None of the above noise abatement measures would be both feasible and reasonable; therefore, no abatement measures are proposed for this project.

To avoid noise impacts that may result from future development of properties adjacent to the project, local officials responsible for land use control programs must ensure, to the maximum extent possible, no new activities are planned or constructed along or within noise impact contours that are reported in Table 3 of the Noise Technical Report. Table 4 below summarizes the noise impact contours that are in Table 3 of the Noise Technical Report.

Table 4: Summarized 2035 Noise Impact Contours

		Noise impact contours
Land Use	Impact Contour	Distance from Proposed Edge of Pavement
East of FM 2493 from FM		
NAC Category B & C	66 dB(A)	40 ft.
NAC Category E	71 dB(A)	2 ft.
East of FM 2493 from CR	148 to New England Rd	
NAC Category B & C	66 dB(A)	55 ft.
NAC Category E	71 dB(A)	15 ft.
West of FM 2493 from 900	ft. North of Southern Trace	Cir to 650 Ft. North of Southern Trace Cir
NAC Category B & C	66 dB(A)	55 ft.
NAC Category E	71 dB(A)	15 ft.
East and West of FM 2493	from Kimberly Dr South to	CR 152 West
NAC Category B & C	66 dB(A)	75 ft.
NAC Category E	71 dB(A)	25 ft.
East of FM 2493 from CR	152 West to Courtney Dr	
NAC Category B & C	66 dB(A)	60 ft.
NAC Category E	71 dB(A)	15 ft.
West of FM 2493 from Tyle	er St to Panther Crossing	
NAC Category B & C	66 dB(A)	40 ft.
NAC Category E	71 dB(A)	2 ft.
East and West of FM 2493	from 1600 ft. North of CR 3	3801 to US 69
NAC Category B & C	66 dB(A)	45 ft.
NAC Category E	71 dB(A)	5 ft.
East and West of FM 2493	from US 69 to the End of the	ne Project
NAC Category B & C	66 dB(A)	55 ft.
NAC Category E	71 dB(A)	12 ft.
East and West of Existing	FM 2493 from CR 3801 to U	JS 69
NAC Category B & C	66 dB(A)	45 ft.
NAC Category E	71 dB(A)	7 ft.
East of US 69 from Beginr	ning of Construction North of	FM 2493 to Northbound Entrance Ramp
NAC Category B & C	66 dB(A)	195 ft.
NAC Category E	71 dB(A)	90 ft.
East of US 69 from Northb	ound Entrance Ramp to FM	2493
NAC Category B & C	66 dB(A)	85 ft.
NAC Category E	71 dB(A)	See Notes
East of US 69 from FM 24	93 to Northbound Exit Ramp	

Land Use	Impact Contour	Distance from Proposed Edge of Pavement
NAC Category B & C	66 dB(A)	195 ft.
NAC Category E	71 dB(A)	75 ft.
East of US 69 from Northb	ound Exit Ramp to End of C	Construction South of FM 2493
NAC Category B & C	66 dB(A)	225 ft.
NAC Category E	71 dB(A)	110 ft.
West of US 69 from Begin	ning of Construction North o	f FM 2493 to Southbound Exit Ramp
NAC Category B & C	66 dB(A)	210 ft.
NAC Category E	71 dB(A)	75 ft.
West of US 69 from Begin	ning of Construction North o	f FM 2493 to FM 2493
NAC Category B & C	66 dB(A)	90 ft.
NAC Category E	71 dB(A)	See Notes
West of US 69 from FM 24	93 to Southbound Entrance	Ramp
NAC Category B & C	66 dB(A)	80 ft.
NAC Category E	71 dB(A)	10 ft.
West of US 69 from FM 24	93 to End of Construction S	outh of FM 2493
NAC Category B & C	66 dB(A)	225 ft.
NAC Category E	71 dB(A)	95 ft.

Notes: A receiver would need to be on the proposed pavement in order to record a 71 dB(A).

Noise associated with the construction of the project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. None of the receivers is expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected. Provisions will be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.

A copy of this traffic noise analysis will be available to local officials. On the date of approval of this document (Date of Public Knowledge), FHWA and TxDOT are no longer responsible for providing noise abatement for new development adjacent to the project.

If the No-Build Alternative were implemented, noise levels would be expected to increase with an associated increase in traffic volumes.

#### 5.15 Induced Growth

Induced growth is type of indirect impact. Indirect impacts are defined as those caused by an action and are later in time or farther removed in distance, but still reasonably foreseeable. Indirect impacts are not directly associated with the construction and operation of the roadway and are often caused by related development and growth. This, in turn, can result in a variety of

related impacts such as changes in land use, population density or growth rate, economic vitality, and impacts on air and water and other natural resources. Under the federal CEQ regulations, an indirect impacts analysis must identify and eliminate issues which are not significant, or which have been covered by prior environmental review, while determining which issues should be analyzed in-depth.

A decision on whether the proposed project required an indirect impact analysis using TxDOT's Induced Growth Indirect Impacts Decision Tree. The proposed project's purpose and need does not include economic development nor will it serve a specific development. Economic development or new opportunities are not cited as benefits for the project. The proposed project has adjacent land that is available for development and it is an added capacity project. The proposed project is located within an MPO boundary; however, the proposed project will not substantially increase access or mobility in the project area.

Based on TxDOT guidance, an indirect impacts analysis is not required for the proposed FM 2493 project.

#### 5.16 Cumulative Impacts

Cumulative impacts are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. According to the CEQ's "Considering Cumulative Effects under the National Environmental Policy Act," an analysis of cumulative impacts generally includes scoping, identifying reasonably foreseeable actions, describing the effected environment, and determining the environmental consequences.

The proposed project would not have substantial direct or indirect impacts on any resource. The proposed project area has no resources in poor or declining health. According to the TxDOT Cumulative Impacts Decision Tree, if the proposed project meets these two criteria then a cumulative impact analysis is not required.

#### 5.17 Construction Phase Impacts

The proposed project construction would require traffic control. A traffic control plan would be implemented to assure uninterrupted traffic flow during construction. Signs would be strategically placed as a method of controlling traffic during the construction activities. Ingress and egress to any affected private, governmental, commercial, or retail establishments would not be impacted and therefore would be maintained throughout the construction period. Every effort would be made to preserve as much vegetation as possible within the ROW.

During the construction phase of the proposed project, due to operations normally associated with road construction, there is a possibility that noise levels would be greater than normal in the areas adjacent to the ROW. Construction is normally limited to daylight hours when occasional loud noises are better tolerated. Due to the relatively short-term exposure periods imposed on

any one receiver, extended disruption of normal activities is not considered likely. Reasonable efforts would be made to minimize construction noise.

During the construction phase of this proposed project, temporary increases in air pollutant emissions may occur from construction activities. The primary construction—related emissions are particulate matter (fugitive dust) from site preparation. These emissions are temporary in nature (only occurring during actual construction); it is not possible to reasonably estimate impacts from these emissions due to limitations of the existing models. However, the potential impacts of particulate matter emissions would be minimized by using fugitive dust control measures such as covering or treating disturbed areas with dust suppression techniques, sprinkling, covering loaded trucks, and other dust abatement controls, as appropriate.

The construction activity phase of this proposed project may generate a temporary increase in MSAT emissions from construction activities, equipment and related vehicles. The primary MSAT construction related emissions are particulate matter from site preparation and diesel particulate matter from diesel powered construction equipment and vehicles.

However, considering the temporary and transient nature of construction-related emissions, as well as the mitigation actions to be utilized, it is not anticipated that emissions from construction of this proposed project would have any significant impact on air quality in the area.

Reasonable measures would be taken to minimize the inconvenience to the vehicles using the roadway during the construction phase. Residential and business properties would be accessible during and after construction. The proposed project would improve the safety, efficiency, and operations of the roadway.

During project development, TxDOT would design, use, and promote construction practices that minimize adverse effects on both regulated and unregulated wildlife habitat. Existing vegetation, especially native trees, would be avoided and preserved wherever practicable.

The no-build alternative does not include construction within the proposed project area. Maintenance activities would continue.

#### **6.0 AGENCY COORDINATION**

#### 6.1 Texas Parks and Wildlife Department Coordination

A Biological Evaluation Form was completed along with a Tier I Site Assessment in accordance with TxDOT's 2013 MOU with TPWD to determine whether coordination with TPWD would be required for the proposed project. The result was that the proposed project did require coordination with TPWD. Coordination was initiated on September 5, 2018, given clearance, and closed on October 4, 2018. A copy of the Biological Evaluation Form is on file at the Tyler District Office.

#### 7.0 PUBLIC INVOLVEMENT

TxDOT has conducted two public meetings concerning the proposed FM 2493 project. The first meeting was conducted on May 12, 2016, at Bullard High School located at 1426 Houston Street in Bullard, Texas. The purpose of the first public meeting was to present the three project alternatives for public review and comment. The second was conducted on March 7, 2017, also at Bullard High School, in order to present and receive comments on the preferred project alignment developed as a result of comments from the first meeting.

Both meetings were held from approximately 5:00 p.m. to 7:00 p.m. in an open house format. Registration desks were located at the entrances of the room where attendees were invited to sign-in. Each person was provided with a pre-addressed comment form to share their thoughts regarding the proposed project.

At the first public meeting, two copies of each of the three project alternative schematics were displayed. At the second meeting, two copies of the preferred project alternative schematic were displayed. Large scale exhibits showing project information, environmental constraints, existing and proposed typical sections, etc. were also displayed at each meeting. Project team members were available to answer questions. Representatives of the TxDOT ROW Division were present to answer questions. All verbal questions and comments were immediately responded to at the meetings.

A public hearing was conducted on November 15, 2018, at the Bullard Elementary School located at 2008 Panther Crossing in Bullard. The public hearing presented the recommended alternative and results of environmental investigations. The hearing was held in an open format from 5:00 p.m. to 6:00 p.m. (similar to the public meeting formats) followed by formal presentation at 6:00 p.m. by the project team and the opportunity for verbal comments from attendees. A court reporter recorded the proceedings of the hearing and was also available to take verbal comments from attendees prior to the formal presentation.

Comment forms and e-mails were received during the comment periods following the public meetings and public hearing. Many comments stated support for the proposed project. Most of the concerns and issues raised were regarding access to adjacent properties and impacts to business and personal property. Public Meeting Summary Reports and the Public Hearing Summary Report containing all the public comments and TxDOT responses have been completed and filed with TxDOT.

In addition to the public meetings and hearing, a meeting with affected property owners (MAPO) was held on November 28, 2017, to show revisions to the existing ROW.

### 8.0 ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

### 8.1 Mitigation and Monitoring Commitments

Construction inspectors would monitor the construction phase of this proposed project. Table 5 provides a list and brief explanation of the mitigation and monitoring activities that are part of the recommended Preferred Alternative.

Table 5: Mitigation and Monitoring Commitments

10010 011	magacion ana	Worldoning Committeents
Project Issues and Resources	Type of Impact	Mitigation and Monitoring Commitments
ROW Acquisition	Relocations	ROW acquisition and relocation would be conducted in accordance with the Federal Uniform Relocation and Real Property Acquisition Policies Act of 1970 (Uniform Act).
Noise	Traffic Noise Levels Would Impact Residential Areas	Noise barriers were not found to be feasible and reasonable.
Pedestrians and Bicycles	Additional Pedestrian Traffic	Six-ft. bike lanes would be constructed along the proposed project to accommodate cyclists. Five-ft. sidewalks are proposed in the more urban areas of the FM 2493 project to accommodate pedestrians.
Water Quality	Storm Water Runoff from Construction	At least one BMP from each of the three categories of onsite water quality management (erosion control, post-construction TSS control, and sedimentation control) would be used on the proposed project. Other approved BMPs may be substituted, if necessary, using one of the BMPs from the same category.
Storm Water	Storm Water Runoff from Construction	The construction contractor would take appropriate measures to prevent, minimize and control the spill of fuels, lubricants, and hazardous materials in the construction staging area. BMP's would be implemented in accordance with the SW3P.
Texas Pollutant Discharge Elimination System	No Long-Term Water Quality Impacts	This project would include five or more acres of earth disturbance. TxDOT would comply with the TCEQ-TPDES-CGP. A SW3P would be implemented, and a construction site notice would be posted on the construction site. A NOI would be required.
Migratory Birds	Best Management Practices to Avoid Impacts to Migratory Birds	TxDOT would take all appropriate actions to prevent the take of migratory birds, their active nests, eggs, or young using proper phasing of the project or other appropriate actions. A MBTA appropriate EPIC will be included in the PS&E.

Project Issues and Resources	Type of Impact	Mitigation and Monitoring Commitments						
State-Listed Species and SGCNs	Best Management Practices to Avoid Impacts to Species	<ul> <li>All bat surveys will comply with TPWD recommended white-nose syndrome protocols.</li> <li>Habitat assessment by a qualified biologist to determine if bats are present.</li> <li>If bats are present, take appropriate measure a practicable to ensure that bats are not harmed such as exclusion or timing activities. For maternity colonies, exclusion activities should be time to avoid separating lactating females from nursing pups.</li> <li>If structures used by bats are removed as a result of construction, replacement structures should incorporate bat-friendly design, or artificial roosts should be constructed to replace these features as practicable.</li> </ul>						
Hazardous Materials	Accidental Disturbance of Hazardous Materials	The contractor would take appropriate measures to prevent, minimize, and control spillage of hazardous materials in the construction staging area(s). All material being removed or disposed of by the contractor would be done in accordance with applicable State and Federal laws as not to degrade ambient water quality. All these measures would be enforced under appropriate specifications in the plan, specification and estimate stage of project development.						
Archeological	Discovery During Construction	After ROW acquisition in areas where an archeological survey was recommended but right-of-entry was not granted, additional survey work is recommended. In the unlikely event that significant cultural resources are discovered during construction of the proposed project, TxDOT would immediately initiate cultural resource discovery procedures. All work in the vicinity would immediately cease until a specialist from TxDOT and/or the THC could arrive on site and assess the discovery's significance and the potential need for additional investigation (if necessary).						
Invasive Species and Beneficial Landscaping	Beneficial	Revegetation of disturbed areas would be in compliance with EO 13112 on Invasive Species. Regionally native and non-invasive plants will be used to the extent practicable. No landscaping would be part of the proposed project. Disturbed areas would be revegetated according to TxDOT's standard practices for rural areas, which to the extent practicable, is in compliance with Executive Memorandum on Beneficial Landscaping.						

Project Issues and Resources	Type of Impact	Mitigation and Monitoring Commitments
Construction	Traffic Detouring, Temporary Noise and Dust, etc.	Plans to ensure safe and efficient traffic flow during construction would be developed as part of the detailed construction plans for the proposed improvements. Other construction-related impacts (such as temporary air and noise effects) would be addressed in compliance with standard TxDOT policies and procedures.

#### 9.0 CONCLUSION

TxDOT recommends the Build Alternative as the Preferred Alternative and recommends a FONSI.

The analysis of alternatives for the proposed project determined that the Preferred Alternative would meet the need and purpose of the proposed project.

The engineering, social, economic, and environmental investigations conducted on the proposed improvements to FM 2493 indicate that the Build Alternative (Preferred Alternative) would result in no significant impacts and does not warrant an Environmental Impact Statement. Alternative selection was finalized after completion of the public review period, which included a public hearing. The Final EA will be made available for public review for a minimum of 30 days before the issuance of a FONSI. Unless significant impacts are identified during public review, a FONSI would be prepared for this proposed project as a basis for Federal-aid corridor location approval.

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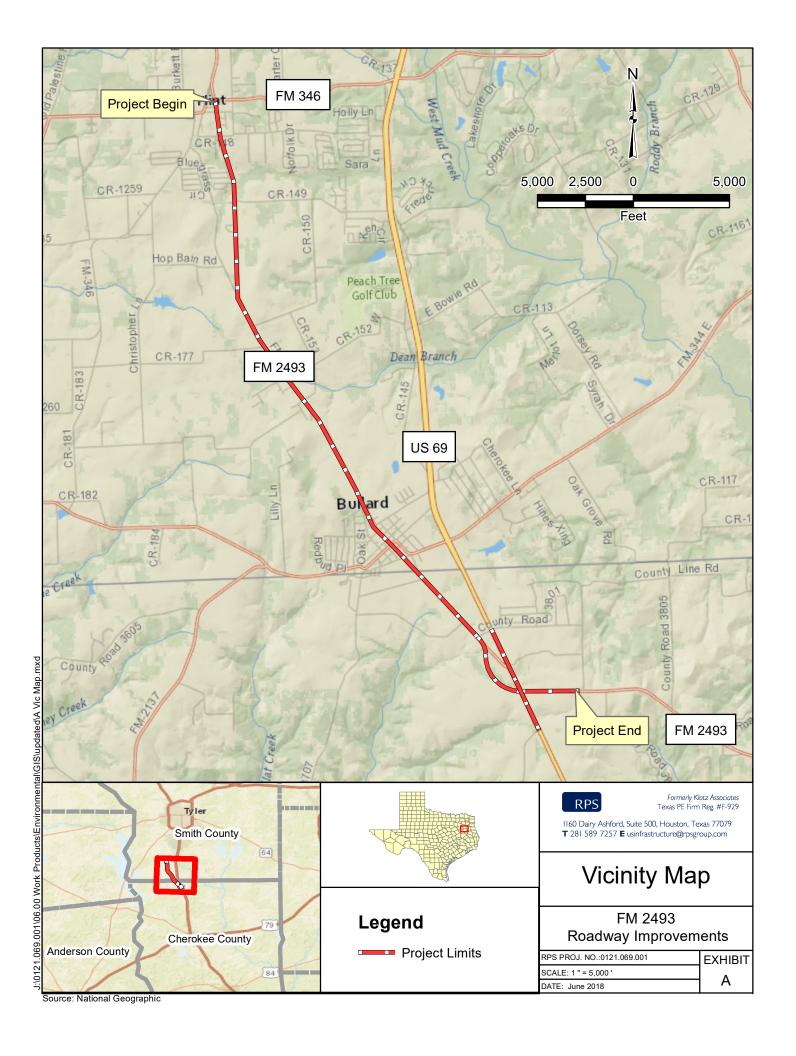
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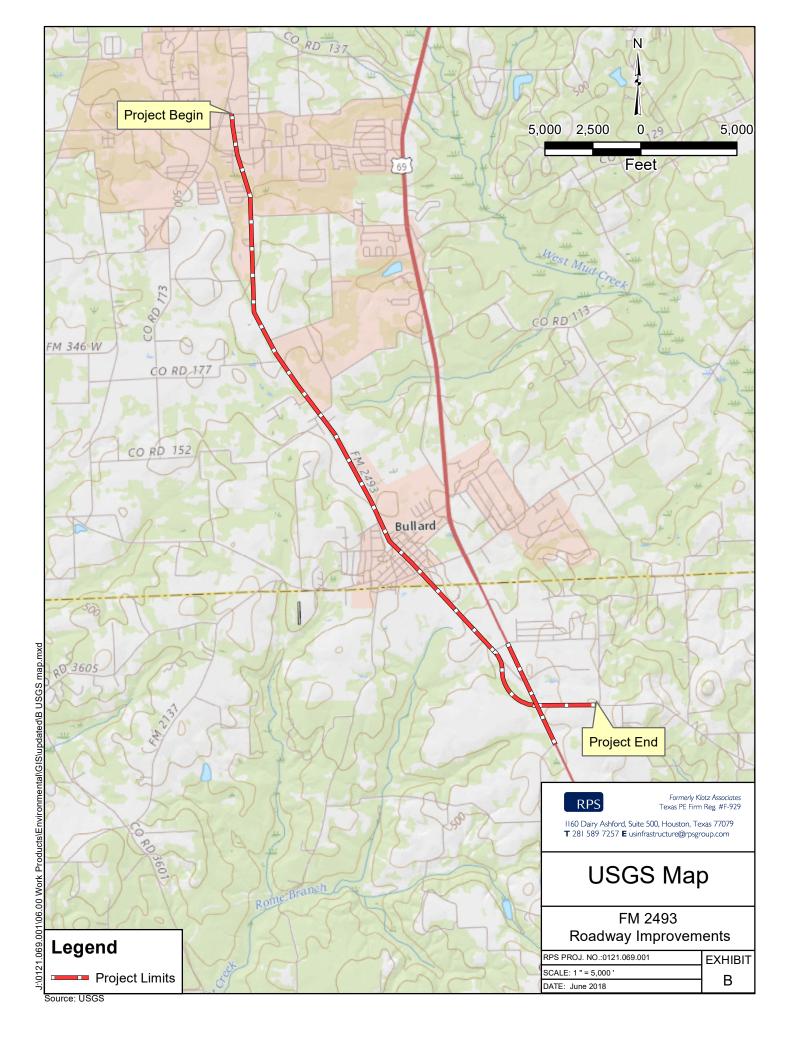
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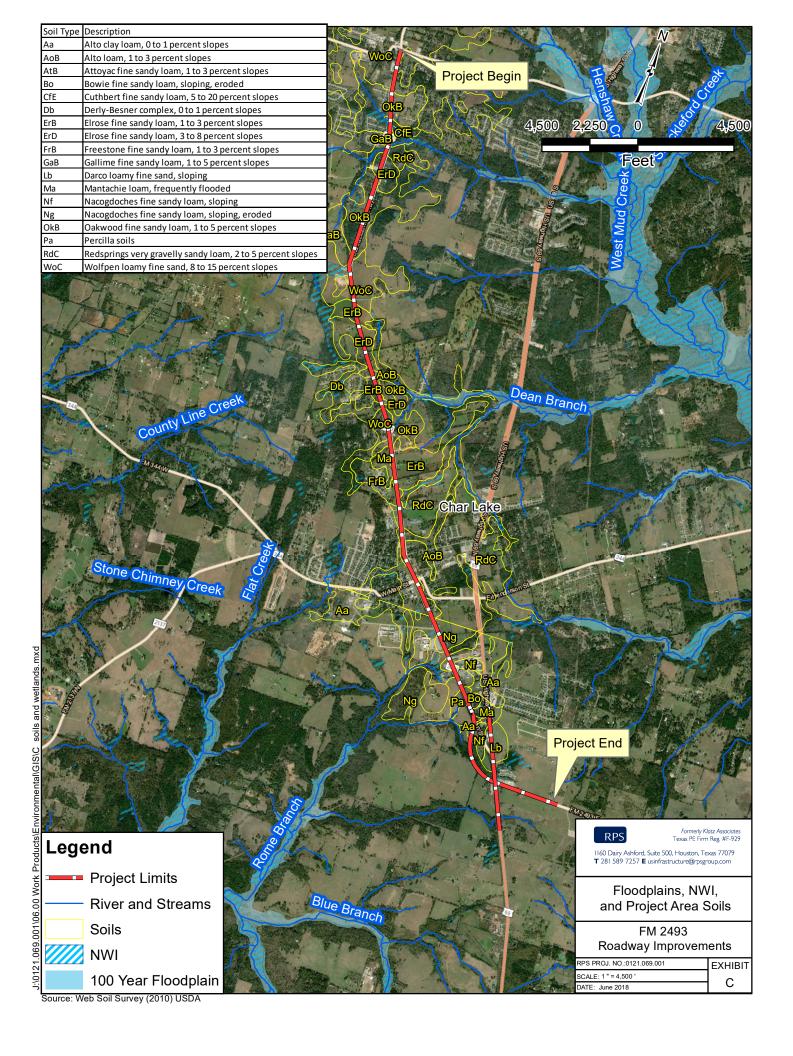
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# **Appendix A**Project Location Maps







## Appendix B Project Photos



Beginning of project – FM 2493 at FM 346 in Flint



Typical development along FM 2493 in Flint



Flint Cemetery (east side of FM 2493)



Flint Cemetery (west side of FM 2493)



Sparsely developed area between Flint and Bullard



Sparsely developed area between Flint and Bullard



Bullard Kids' Park north of Bullard (west side of FM 2493)



Intersection of FM 2493 and FM 344 in Bullard



Bullard High School in Bullard (west side of FM 2493)



Bullard Memorial Cemetery (east side of FM 2493)

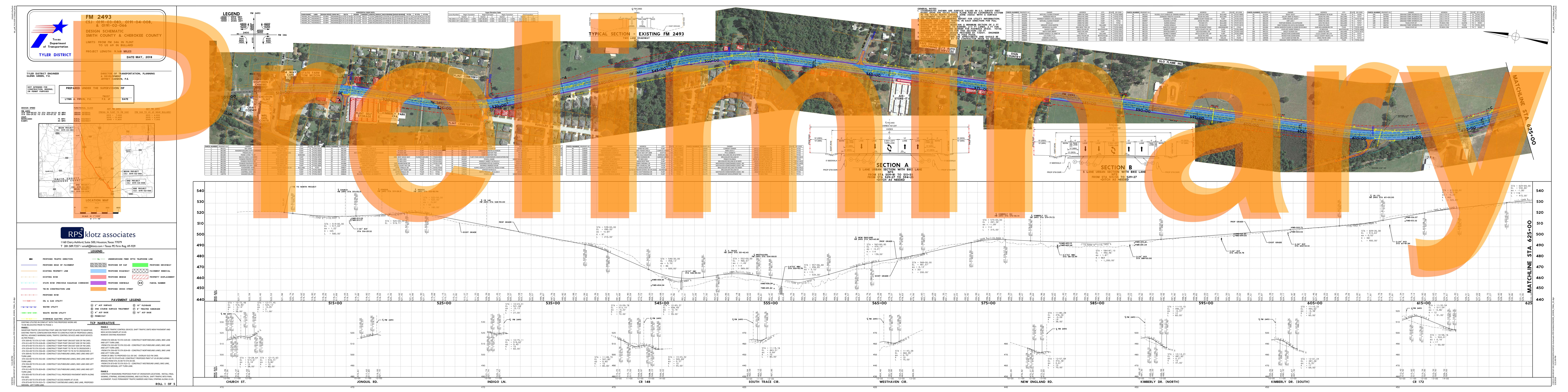


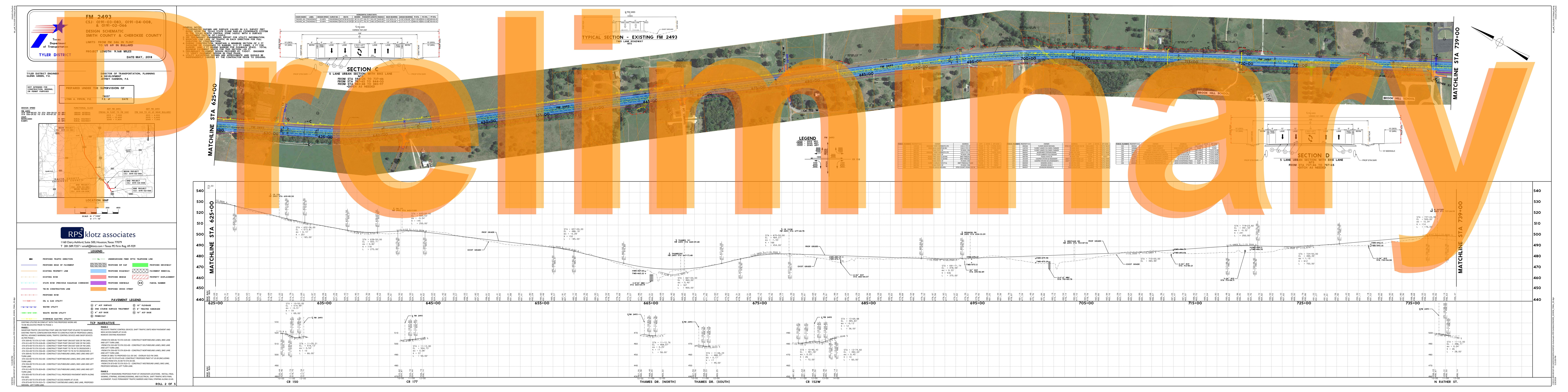
Sparsely developed area south of Bullard approaching US 69

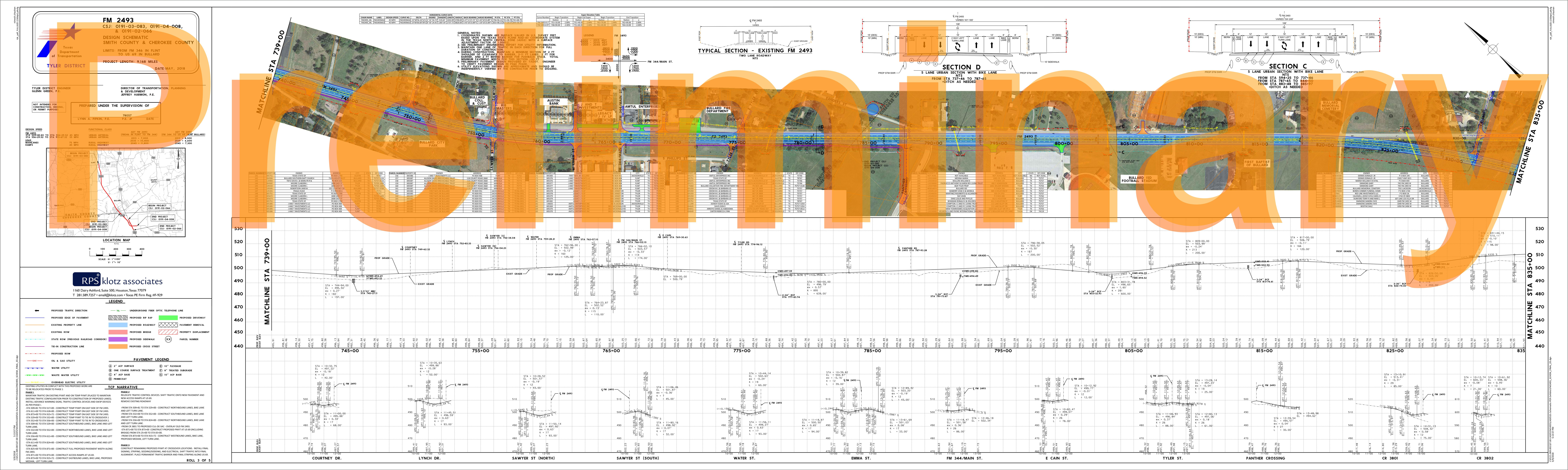


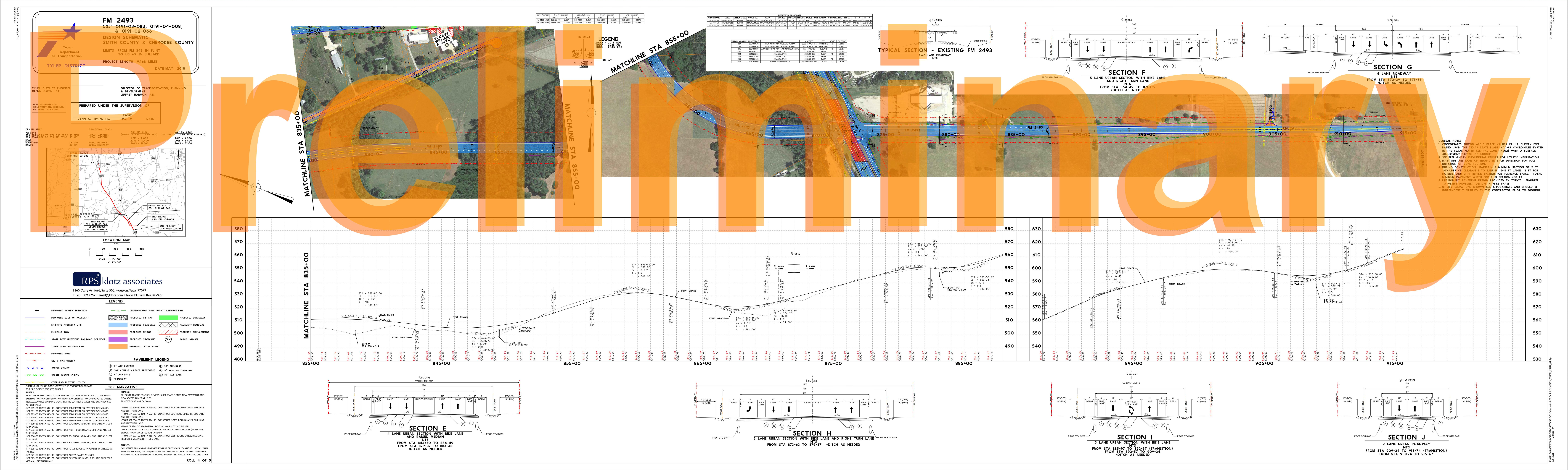
FM 2493 on the east side of US 69

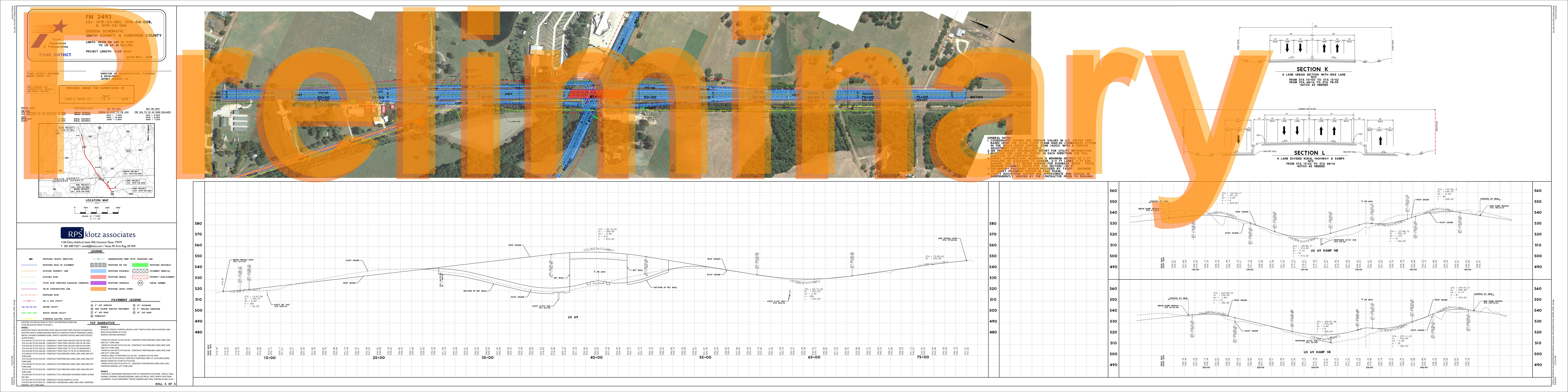
## Appendix C Schematics





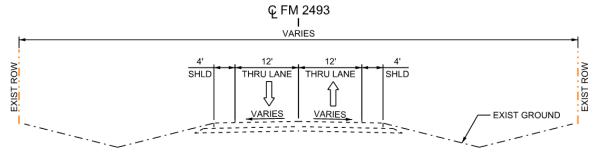




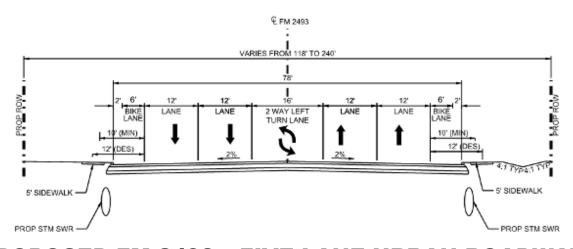


# **Appendix D Typical Sections**

## **FM 2493 TYPICAL SECTIONS**



### **EXISTING FM 2493 – TWO LANE ROADWAY**

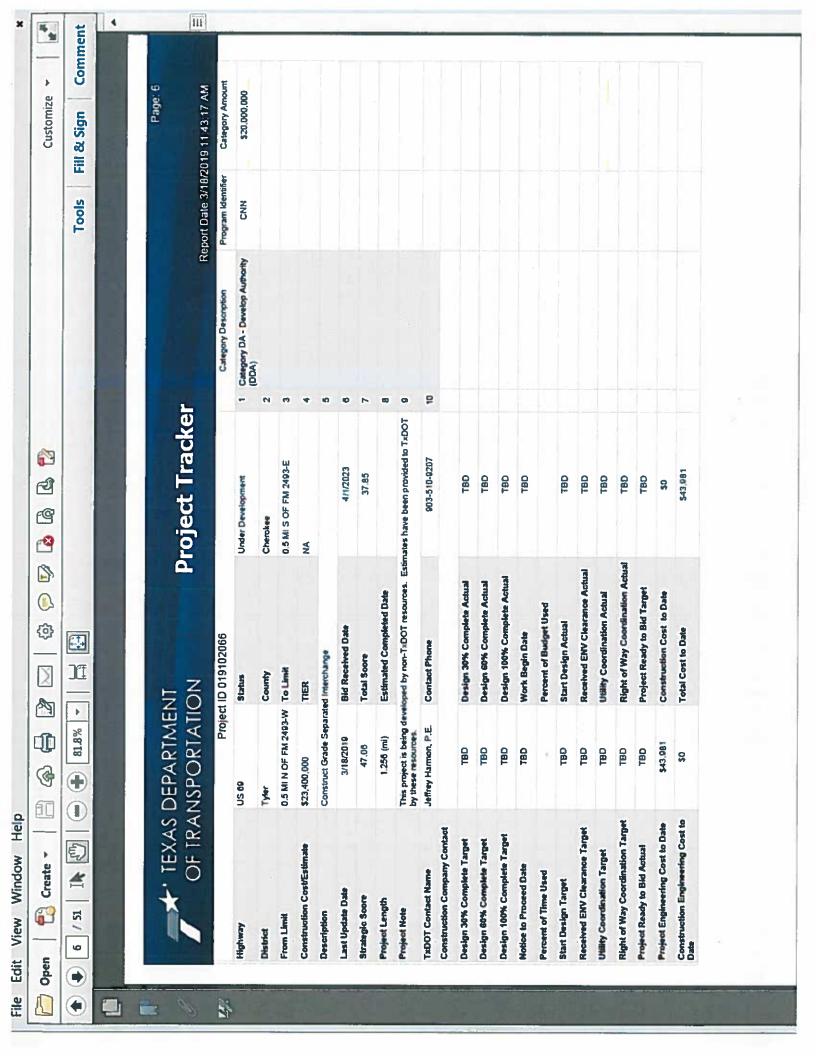


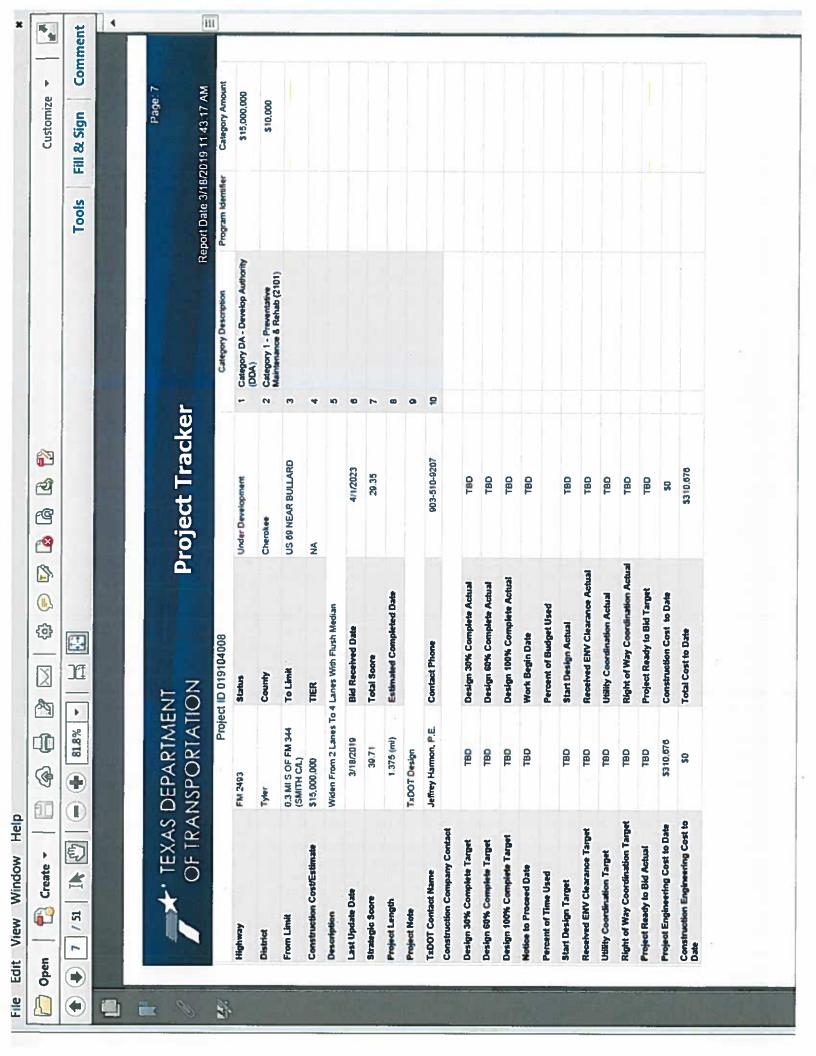
PROPOSED FM 2493 – FIVE LANE URBAN ROADWAY
WITH BIKE LANE

# Appendix E Plan and Program Excerpts

## STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM TIP FY 2019-2022 TYLER METROPOLITAN PLANNING ORGANIZATION FY 2021

DISTRICT	COUNTY	CSJ	HWY	PHASE	CITY		PR	OJEC	T SPON	SOR			YOE COST
TYLER	SMITH	0606-01-007	PR 16	С								\$	905,036
LIMITS FROM:	PARK MAINT RD	IN TYLER ST PARK	C, SW					REVIS	ION DATE	Ē:		07	2018
LIMITS TO:	CEDAR POINT CA	AMPING AREA EXIT	Г					MPO F	ROJ NUN	<b>/</b> 1:			
PROJECT	CONSTRUCT EN	TRANCE & PARKIN	G THAT IS FU	JRTHER				FUNDI	NG CAT(S	S):		10	
DESC:	BACK FROM FM	14 FOR NEW HEAD	QUARTERS	BUILDING	PROJECT	PRE'	VIOUSLY LIS	TED UN	IDER CSJ	0910-	16-120		
REMARKS					HISTORY:								
P7:													
	DJECT COST INF	ORMATION	<del></del>		AUTHORIZ	ZED I	FUNDING E	Y CA	regory	//SHA	RE		
PRELIM ENG:	\$ 49,708	!	I CATEGORY	,	FEDERAL		STATE		OCAL		LC		TOTAL
ROW PURCHASE:	\$ -	COST OF APPROVED	10		\$ -	\$	905,036			\$		- \$	905,036
CONST COST:	\$ 1,014,455	7	TOTAL		\$ -	\$	905,036			\$		- \$	905,036
CONST ENG:	\$ 49,606	•	1		•	Ψ.	000,000	•		•		Ÿ	000,000
CONTING:		<b>†</b> .	!										
	\$ 11,463	\$ 905,036	1										
IND COSTS:	- <u>\$</u>	<del>i</del>	!										
BND FINANCING:	\$ -	ļ	1										
POT CHG ORD:	\$ -	-	!										
TOTAL PRJ COST:	\$ 1,125,232		!										
DISTRICT	COUNTY	CSJ	HWY	PHASE	CITY		PR	OJEC	T SPON	SOR			YOE COST
TYLER	SMITH	0522-04-032	FM 16	C, E			-					\$	24,740,000
LIMITS FROM:	4 MI W OF FM 84			0, 2				PEVIS	ION DATE				2018
LIMITS TO:	US 69 IN LINDALI								ROJ NUN			ST	
		4 LNS W/FLUSH M	EDIAN US69	TO TOLL									
PROJECT	49 EXTNSN	4 LING WII LOOM III	LD1/ (14,0000					FUNDI	NG CAT(	5):		1,	20
DESC:					PROJECT								
REMARKS					HISTORY:								
P7:			<del></del>		<u> </u>								
TOTAL PRO	DJECT COST INF	ORMATION	!		AUTHORIZ	ZED I	FUNDING E	Y CA	regory	'/SHA	RE		
PRELIM ENG:	\$ 1,349,776	COST OF	CATEGORY	′	FEDERAL		STATE	L	OCAL		LC		TOTAL
ROW PURCHASE:	\$ -	APPROVED	2U		\$ 19,784,000	\$	4,946,000	\$	-	\$		- \$	24,730,000
CONST COST:	\$ 27,546,460	PHASES:	1		\$ 8,000	\$	2,000	\$	-	\$		- \$	10,000
CONST ENG:	\$ 1,366,304	Ī	TOTAL		\$ 19,792,000	\$	4,948,000	\$	-	\$		- \$	24,740,000
CONTING:	\$ 548,174	\$ 24,740,000	į										
IND COSTS:	\$ -	1	!										
BND FINANCING:	\$ -	†	į										
POT CHG ORD:	\$ 1,030,237	•	!										
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	, , , , , , , , , , , , , , , , , , , ,	:	l										
DISTRICT	COUNTY	CSJ	HWY	PHASE	CITY		PR	OJEC	T SPON	SOR			YOE COST
TYLER	CMITH		FM 2493	C, E	BULLARD							\$	32,650,000
	SMITH	0191-03-083	1 W 2400		DOLL, II ID								2018
LIMITS FROM:	FM 346 IN FLINT	0191-03-083	1 W 2400		5025 1115			REVIS	ION DATE	E:		07	
LIMITS FROM: LIMITS TO:	FM 346 IN FLINT	0191-03-083 F FM 344 (CHEROKI		LINE)	BOLL III								-9
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LIMITS TO: PROJECT DESC: REMARKS P7: TOTAL PRO	FM 346 IN FLINT  0.3 MI SOUTH OF  WIDEN FROM 2 L  DJECT COST INF	FM 344 (CHEROK ANES TO 4 LANES	WITH FLUSH	MEDIAN)	PROJECT HISTORY: AUTHORIZ	GRO	UPED FOR F	MPO F FUNDI PE ONL'	PROJ NUM NG CAT(S Y FOR TH Y IN 2017-	<b>/I</b> : S): E MAY -2020 S	RE	ST	SION
LIMITS TO: PROJECT DESC: REMARKS P7: TOTAL PRO	FM 346 IN FLINT  0.3 MI SOUTH OF  WIDEN FROM 2 L  DJECT COST INF  \$ 1,810,387	ORMATION COST OF	EE COUNTY I	MEDIAN)	PROJECT HISTORY: AUTHORIZ FEDERAL	GRO ZED I	UPED FOR P FUNDING E STATE	MPO F FUNDI PE ONL' PE ONL' PE ONL'	PROJ NUM NG CAT(S Y FOR TH Y IN 2017- TEGORY OCAL	/I: S): E MAY -2020 S	STIP	ST	SION
LIMITS TO: PROJECT DESC: REMARKS P7: TOTAL PRO	FM 346 IN FLINT  0.3 MI SOUTH OF  WIDEN FROM 2 L  DJECT COST INF	ORMATION COST OF	WITH FLUSH	MEDIAN)	PROJECT HISTORY: AUTHORIZ FEDERAL \$ 26,112,000	GRO ZED I	UPED FOR F	MPO F FUNDI PE ONL' PE ONL' PE ONL'	PROJ NUM NG CAT(S Y FOR TH Y IN 2017-	<b>/I</b> : S): E MAY -2020 S	RE	ST	SION
LIMITS TO: PROJECT DESC: REMARKS P7: TOTAL PRO	FM 346 IN FLINT  0.3 MI SOUTH OF  WIDEN FROM 2 L  DJECT COST INF  \$ 1,810,387	ORMATION COST OF	EE COUNTY I	MEDIAN)	PROJECT HISTORY: AUTHORIZ FEDERAL	GRO	UPED FOR P FUNDING E STATE	MPO F FUNDI E ONL' E ONL' L	PROJ NUM NG CAT(S Y FOR TH Y IN 2017- TEGORY OCAL	/I: S): E MAY -2020 S	RE	ST	SION
LIMITS TO: PROJECT DESC: REMARKS P7: TOTAL PRO PRELIM ENG: ROW PURCHASE:	PM 346 IN FLINT  0.3 MI SOUTH OF  WIDEN FROM 2 L  DJECT COST INF  \$ 1,810,387  \$ -	ORMATION COST OF APPROVED PHASES:	CATEGORY	MEDIAN)	PROJECT HISTORY: AUTHORIZ FEDERAL \$ 26,112,000	\$ \$	FUNDING E STATE 6,528,000	MPO F FUNDI PE ONL' PE ONL' SY CAT L \$	PROJ NUM NG CAT(S Y FOR TH Y IN 2017- TEGORY OCAL	/i: S): E MAY -2020 S	RE	ST	TOTAL 32,640,000 10,000
LIMITS TO: PROJECT DESC: REMARKS P7: TOTAL PRO PRELIM ENG: ROW PURCHASE: CONST COST:	DJECT COST INF \$ 1,810,387 \$ 36,946,687	ORMATION  COST OF APPROVED PHASES:	CATEGORY  2U  TOTAL	MEDIAN)	PROJECT HISTORY:  AUTHORIZ FEDERAL \$ 26,112,000 \$ 8,000	\$ \$	FUNDING E STATE 6,528,000 2,000	MPO F FUNDI PE ONL' PE ONL' SY CAT L \$	PROJ NUM NG CAT(S Y FOR TH Y IN 2017- TEGORY OCAL	M: S): E MAY -2020 S //SHA \$	RE	STIP REVI	TOTAL 32,640,000 10,000
LIMITS TO: PROJECT DESC: REMARKS P7: TOTAL PRO PRELIM ENG: ROW PURCHASE: CONST COST: CONST ENG:	DJECT COST INF \$ 1,810,387 \$ - \$ 36,946,687 \$ 1,832,555	ORMATION COST OF APPROVED PHASES:	CATEGORY  2U  TOTAL	MEDIAN)	PROJECT HISTORY:  AUTHORIZ FEDERAL \$ 26,112,000 \$ 8,000	\$ \$	FUNDING E STATE 6,528,000 2,000	MPO F FUNDI PE ONL' PE ONL' SY CAT L \$	PROJ NUM NG CAT(S Y FOR TH Y IN 2017- TEGORY OCAL	M: S): E MAY -2020 S //SHA \$	RE	STIP REVI	TOTAL 32,640,000 10,000
LIMITS TO: PROJECT DESC: REMARKS P7: TOTAL PRO PRELIM ENG: ROW PURCHASE: CONST COST: CONST ENG: CONTING:	DJECT COST INF \$ 1,810,387 \$ - \$ 36,946,687 \$ 1,832,555 \$ 735,239	ORMATION COST OF APPROVED PHASES:	CATEGORY  2U  TOTAL	MEDIAN)	PROJECT HISTORY:  AUTHORIZ FEDERAL \$ 26,112,000 \$ 8,000	\$ \$	FUNDING E STATE 6,528,000 2,000	MPO F FUNDI PE ONL' PE ONL' SY CAT L \$	PROJ NUM NG CAT(S Y FOR TH Y IN 2017- TEGORY OCAL	M: S): E MAY -2020 S //SHA \$	RE	STIP REVI	TOTAL 32,640,000 10,000
LIMITS TO: PROJECT DESC: REMARKS P7: TOTAL PRO PRELIM ENG: ROW PURCHASE: CONST COST: CONST ENG: CONTING: IND COSTS: BND FINANCING:	DJECT COST INF \$ 1,810,387 \$ 1,832,555 \$ 735,239 \$ - \$ -	ORMATION COST OF APPROVED PHASES:	CATEGORY  2U  TOTAL	MEDIAN)	PROJECT HISTORY:  AUTHORIZ FEDERAL \$ 26,112,000 \$ 8,000	\$ \$	FUNDING E STATE 6,528,000 2,000	MPO F FUNDI PE ONL' PE ONL' SY CAT L \$	PROJ NUM NG CAT(S Y FOR TH Y IN 2017- TEGORY OCAL	M: S): E MAY -2020 S //SHA \$	RE	STIP REVI	TOTAL 32,640,000 10,000
LIMITS TO: PROJECT DESC: REMARKS P7: TOTAL PRO PRELIM ENG: ROW PURCHASE: CONST COST: CONST ENG: CONTING: IND COSTS:	DJECT COST INF \$ 1,810,387 \$ 1,832,555 \$ 735,239 \$ - \$ \$ - \$ \$	ORMATION COST OF APPROVED PHASES:	CATEGORY  2U  TOTAL	MEDIAN)	PROJECT HISTORY:  AUTHORIZ FEDERAL \$ 26,112,000 \$ 8,000	\$ \$	FUNDING E STATE 6,528,000 2,000	MPO F FUNDI PE ONL' PE ONL' SY CAT L \$	PROJ NUM NG CAT(S Y FOR TH Y IN 2017- TEGORY OCAL	M: S): E MAY -2020 S //SHA \$	RE	STIP REVI	TOTAL 32,640,000







			通り				
Project	Extent	Description	Source	Included in Scoring			
Shiloh Rd	Rhones Quarter Rd to Copeland Rd	Widen to a 4-lane minor arterial with CTL	2035 MTP – Local Short-term	Locally funded – no need to score			
W Erwin Street at Glenwood	Widen intersection to e	liminate split phase operations	2035 MTP – Local Short-term	Locally funded — no need to score			
Roy Road	Paluxy Dr to Rhones Quarter Rd	Widen to 2-lane major collector with CTL	2035 MTP – Local Short-term	Locally funded – no need to score			
Rice Road	Old Bullard Rd to Jacksonville Hwy	Widen to 4-lane minor arterial with CTL	2035 MTP – Local Short-term	Locally funded – no need to score			
Earl Campbell Parkway	SL 323 to SH 31W	Construct divided 4-lane minor arterial	City of Tyler	Locally funded – no need to score			
Loop 49 Segment 6	SH 110 to 0.35 mi E of US 271/ FM 2908 intersection	Construct New 2 Lane Controlled Access Toll Road as Extension of Loop 49	2040 MTP – Project Call	NET RMA funded no need to score			
IH 20	At US 69	Ramp improvements at US 69	TxDOT	Short-term			
FM 2493	FM 346 in Flint, S to 0.3 mi S of FM 344 (Cherokee C/L)	Widen from 2 Lanes to 4 Lanes with Flush Median	TxDOT	Short-term			
FM 16	Loop 49 Extension (2.4 miles W of US 69) to US 69 in Lindale	Widen from 2 to 4 lanes	TxDOT	Short-term			
FM 2493 <sup>2</sup>	1.75 Mi W of FM 848 (Old Omen Rd), E to SH 64 SE of Tyler	Widen to 4 lanes with flush median	TxDOT	Short-term			
SS 248	1.75 Mi W of FM 848 (Old Omen Rd), E to SH 64 SE of Tyler	Widen to 4-lane divided roadway with flush median	TxDOT	Short-term			
Railroad ROW Acquisition	Hagen Road in Whitehouse to FM 346 in Troup	Purchase 7.25 miles of abandoned Union Pacific Railroad corridor	TxDOT	Short-term			
FM 756 (Paluxy)	Jeff Davis Drive to FM 346	Upgrade to a 4-lane principal arterial	TxDOT	Short-term			
FM 2964 (Rhones Quarter)	Grande Blvd to CR 2167	Upgrade to a 4-lane principal arterial	TxDOT	Short-term			

<sup>&</sup>lt;sup>2</sup> The following projects - FM 2493 [north of FM 346] and SS 248 - were moved from the list of programmed to the list of proposed projects based on project readiness. Since these projects were not included in the original list of proposed projects ranked by the Technical Advisory Committee (TAC) on October 8, 2014, the projects were scored by TAC members during their November 6, 2014 meeting.

# Appendix F Resource Specific Documents and Maps

(Rev. 1-91)

## FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I (To be completed by Federal Agency)  1. Name of Project FM 2493: FM 346 to US 69  2. Type of Project Roadway widening (2 to 4 lanes)			3. Date of Land Evaluation Request 9/12/18 5. Federal Agency Involved FHWA 6. County and State Smith & Cherokee Counties, Texas																
										PART II (To be completed by NRCS)			1. Date	Request Received by	y NRCS	2. Person Completing Form			
										Does the corridor contain prime, unique statewide or local important farmland     (If no, the FPPA does not apply - Do not complete additional parts of this form				YES NO	l	Acres Irrigated   Average Farm Size			
5. Major Crop(s)	ajor Crop(s) 6. Farmable Lan					7. Amoun	t of Farmland As D	efined in FPPA											
	Acres:			%		Acres	· ·	%											
Name Of Land Evaluation System	Used	Il Site Asse	ssment System		10. Date I	Land Evaluation Re	eturned by NRCS												
PART III (To be completed by Federal Agency)				Alternati															
				Corridor A	Corri	dor B	Corridor C	Corridor D											
A. Total Acres To Be Converted Dir				68				<u> </u>											
B. Total Acres To Be Converted Inc	lirectly, Or To Receive S	Services		0				<u> </u>											
C. Total Acres In Corridor				180															
PART IV (To be completed by I	NRCS) Land Evaluati	on Information	1																
A. Total Acres Prime And Unique F	armland																		
B. Total Acres Statewide And Loca	l Important Farmland																		
C. Percentage Of Farmland in Cou																			
D. Percentage Of Farmland in Govt																			
PART V (To be completed by NRC	,		Relative																
value of Farmland to Be Serviced	· · · · · · · · · · · · · · · · · · ·	Ť																	
PART VI (To be completed by Fe Assessment Criteria (These crite	• • • • • • • • • • • • • • • • • • • •		Maximum Points																
1. Area in Nonurban Use			15	6															
2. Perimeter in Nonurban Use			10	5															
3. Percent Of Corridor Being Fa			20	1															
4. Protection Provided By State			20	0				<u> </u>											
5. Size of Present Farm Unit Co			10	5				<u> </u>											
6. Creation Of Nonfarmable Fa			25	0															
7. Availablility Of Farm Support	Services		5 20	8				<del>                                     </del>											
8. On-Farm Investments	arm Cunnart Cardiaga		25	0															
9. Effects Of Conversion On Fa			10																
10. Compatibility With Existing A	-			0				<del>                                     </del>											
TOTAL CORRIDOR ASSESSI			160	25	0		0	0											
PART VII (To be completed by F	ederal Agency)																		
Relative Value Of Farmland (Fro			100	0	0		0	0											
Total Corridor Assessment (From assessment)	ı Part VI above or a loca	I site	160	25	0		0	0											
TOTAL POINTS (Total of above	ve 2 lines)		260	25	0		0	0											
Corridor Selected:	2. Total Acres of Farn	1,	3. Date Of	Selection: 4. Was		s A Local Site Assessment Used?													
	Converted by Proje	ect:																	
						YES	NO												
5. Reason For Selection:	1	I			1														
Signature of Person Completing this	Part:					DATE													
						•													
NOTE: Complete a form for a	ach seament with r	more than one	Altarnat	A Corridor															



# Checklist for Section 4(f) *De Minimis* for Public Parks, Recreation Lands, Wildlife & Waterfowl Refuges, and Historic Properties

		<b>SJ</b> : 0191-03-083
		(s): Tyler es): Cherokee, Smith
	Property	
. 1		ne: City of Bullard Kids Park
are De Th	e being, or have beember 16, 20 e following ch necessary info hat Type \( \text{\tinx{\text{\tinx{\text{\texi\text{\texi{\texi\texi{\text{\texict{\texi\texi\texi{\text{\texi{\texi{\texi\texi{\texi{\texi{\texi{\texit{\texi	Intal review, consultation, and other actions required by applicable Federal environmental laws for this project we been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated 2014, and executed by FHWA and TxDOT.  Becklist was developed as a tool to assist in streamlining the Section 4(f) De Minimis process and to ensure that cormation is documented in the File of Record (ECOS).  For Property is Being Evaluated?  The recreation land, or wildlife/waterfowl refuge the recreation land.
Se	ection 4(f)	Defining Criteria for Parks, Recreation, and Refuge Properties
1.	Yes	Is the property publicly owned?
2.	Yes	Is the property open to the public (except in certain cases for refuges)?
3.	Yes	Is the property's major purpose for park, recreation, or refuge activities?
4.	Yes	Is the property significant?
De	efining the	e Property's Significance
Not	te: Significand	ce is presumed in the absence of a determination with the official with jurisdiction.
1.	Yes	Does the property play an important role in meeting the park, recreation, or refuge objectives for the official with jurisdiction?
2.	Yes	Is the property's major purpose for park, recreation, or refuge activities?
Ēs	tablishin	g Section 4(f) Use of the Property
١.	Yes	Does the project require a use (i.e., new right of way, new easement(s), etc.)?

# Establishing Section 4(f) De Minimis Eligibility

Standard TxDOT Environmental Affairs Division Effective Date: October 2016

Department of Transportation	and Hist	oric Properties
1	Yes	Was it determined that the project will not adversely affect the activities features, or attributes that make the property eligible for Section 4(f) protection?
2	Yes	Was a public notice and an opportunity for public review and comment provided? (This requirement can be satisfied in conjunction with other public involvement procedures, such as those for NEPA process)
3	Yes	Did the Official with Jurisdiction concur that the property was significant and that the proposed project meets ALL conditions of items above?

Checklist for Section 4(f) De Minimis for Public Parks, Recreation Lands, Wildlife & Waterfowl Refuges,

#### **Documentation**

The following MUST be attached to this checklist to ensure proper documentation of the Section 4(f) De Minimis:

- 1. Brief project description
- 2. Explanation of how the property will be used.
- 3. A detailed map of the Section 4(f) property including:
  - a. Current and proposed ROW
  - b. Property boundaries
  - c. Existing and planned facilities
- 4. Concurrence letter with the Official with Jurisdiction

## **TxDOT Approval Signatures**

#### **District Reviewer Certification**

I reviewed this checklist and all attached documentation and confirm that the above property and proposed project meet the requirements of 23 CFR 774 for a Section 4(f) De Minimis finding.

District Personnel Name	Date: 2018.12.17 15:50:05 -06'00'	December 17, 2018  Date	_
Christine Crosby	Digitally signed by Christine Crosby DN: cn=Christine Crosby, o=TxDOT, ou=Tyler District APD, email=christine.crosby@txdot.gov, c=US	December 17, 2019	

#### **ENV Technical Expert Reviewer Certification**

I reviewed this checklist and all attached documentation and confirm that the above property and proposed project meet the requirements of 23 CFR 774 for a Section 4(f) *De Minimis* finding.

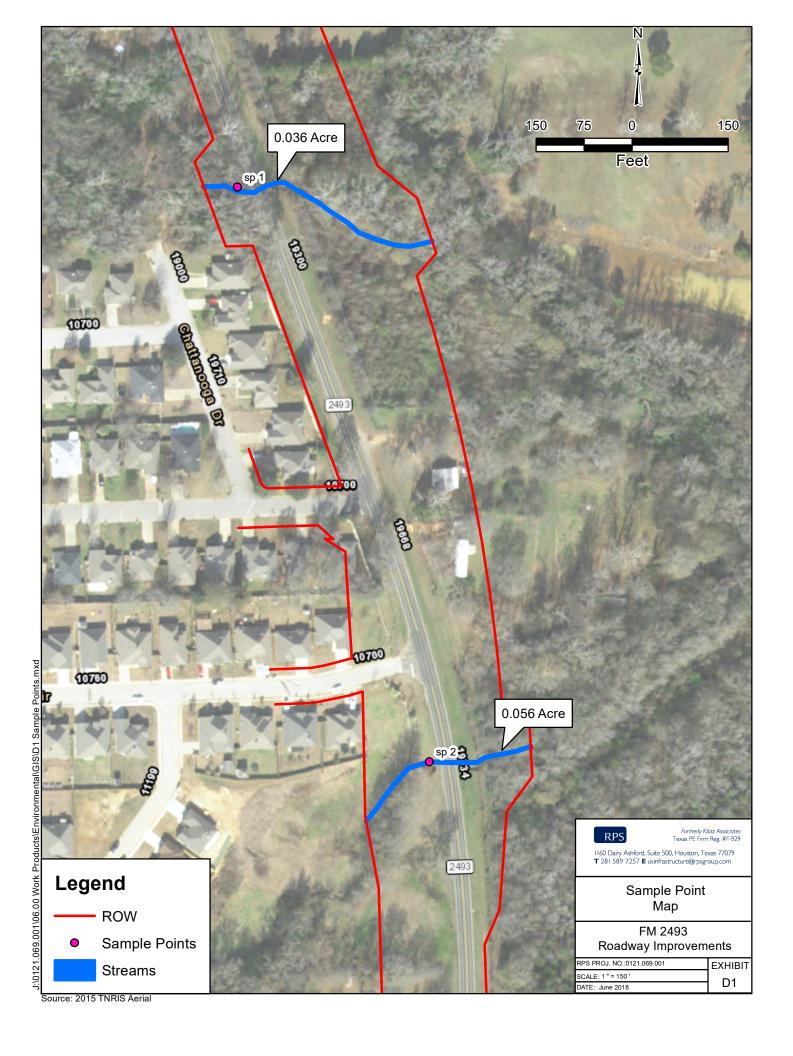
Jubal Grubb  Digitally signed by Jubal Grubb  DN: cn=Jubal Grubb Grubb, cn=ENV, email=jubal Brubb@bdct.gov, c=US Date: 2018.12.17 1624.52-0600		December 17, 2018
ENV Personnel Name		Date

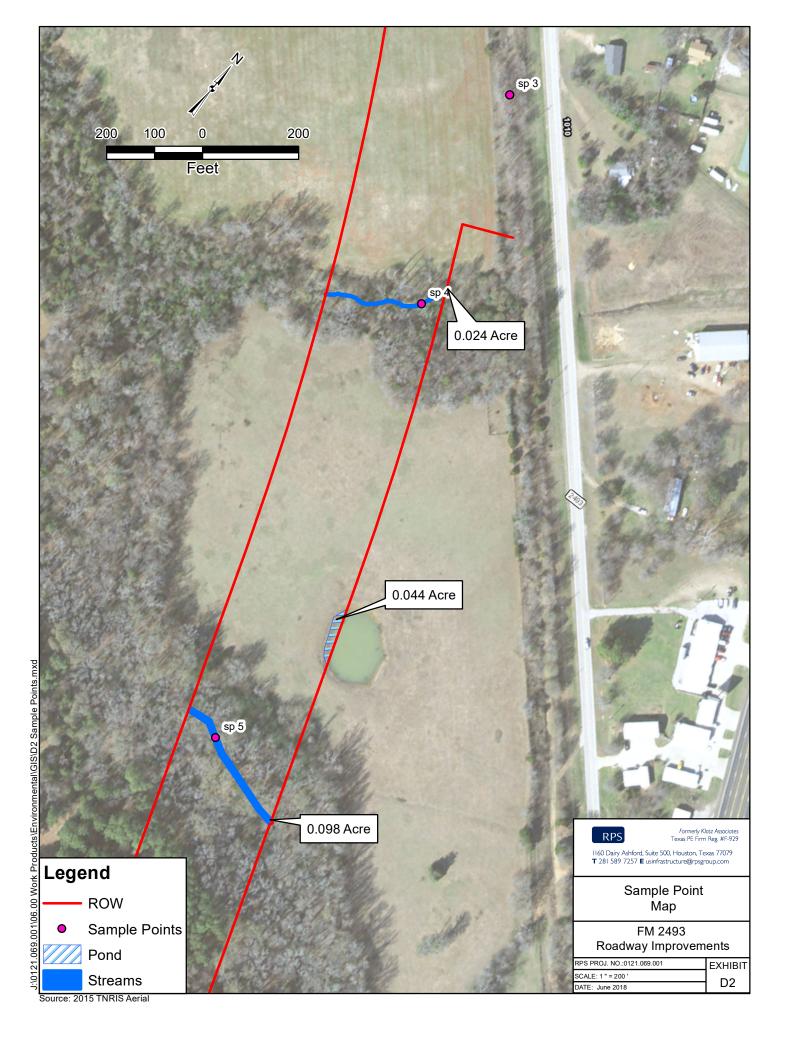


# TxDOT-ENV Section 4(f) De Minimis Final Approval

Based upon the above considerations, this Section 4(f) De Minimis satisfies the requirements of 23 CFR 774.

Bruce Jensen	Digitally signed by Bruce Jensen  DN: cn=Bruce Jensen, o=TxDOT, ou=CRM Section Director  Environmental Affairs, email=bruce jensen@txdot.gov, c=US  Date: 2018.12.18 09:00:30 -06'00'	December 18, 2018
TxDOT-ENV, CRM Director of	or designee	Date
TxDOT-ENV, PD Director or	designee	Date





Project/Site: FM 2493			City/Co	ounty: _ <sup>Flint/Sr</sup>	mith County		8	Sampling	Date: 4/16/1	5
Applicant/Owner: TxDOT						State: TX	8	Sampling I	Point: SP-1	
Investigator(s): Matthew Clinton CWB	The second of th		Sectio	n, Township,	, Range: _					
Landform (hillslope, terrace, etc.): water of	rossing		Local	relief (conca	ve, convex	k, none): _c	oncave		_ Slope (%	b):
Subregion (LRR): LRR J		Lat: 32.1	194243		Long	j: <u>-95.34640</u>	8		Datum: _	
Soil Map Unit Name: Cuthbert fine sandy loan	m					NW	classificat	ion:		
Are climatic / hydrologic conditions on the	e site typical for	this time of ye	ar? Ye	es <u>X</u> N	10	(If no, exp	olain in Rer	narks.)		
Are Vegetation, Soil, or H	lydrology	_ significantly	disturb	ped? A	Are "Norma	al Circumst	tances" pre	sent? Y	es X	No
Are Vegetation, Soil, or H	lydrology	_ naturally pro	oblema	tic? (	If needed,	explain an	y answers	in Remar	ks.)	
SUMMARY OF FINDINGS - At	tach site ma	p showing	sam	pling poir	nt location	ons, tra	nsects, i	mporta	nt featur	es, etc.
Hydrophytic Vegetation Present?	Yes	No X			101 101 0					
Hydric Soil Present?	Yes			Is the Samp				×		
Wetland Hydrology Present?	Yes X			within a We	etland?	Y	es	_ No <u>^</u>		
Remarks:	2000	500 100 100		101000				-		
First unnamed tributary of	Shacklefor	d Creek								
VECETATION III										
VEGETATION – Use scientific	names of pla									
Tree Stratum (Plot size: 30 feet	)	Absolute % Cover		inant Indicat ies? Status			st worksh			
1. Ulmus americana		20	Υ	FAC	- Num		ninant Spec FACW, or l	FAC		
2. Celtis occidentalis		20	Υ	FACU	(excl	uding FAC	:-):	3		_ (A)
3. Quercus nigra		5	N	FAC	0.22		of Dominan	7		200
4			-		_ Spec	ies Across	All Strata:			_ (B)
Sapling/Shrub Stratum (Plot size: 30 fe	et \	45	= Tota	l Cover			ninant Spec		1	(A (D)
1. Ulmus americana		20	Υ	FAC	That	Are OBL,	FACW, or I	FAC:	3	_ (A/B)
2. Celtis occidentalis		20	Y	FACU	Prev	alence Inc	dex works	heet:		
3. Platanus occidentalis		5	N	FAC			ver of:		fultiply by:	
4										
5						v species	90		270	_
Herb Stratum (Plot size: 30 feet	1	45	= Total	l Cover	50770000000		105			
1 Stenotaphrum secundatum	/	35	Υ	FAC	1	species				_
2. Cynodon dactylon		45	Υ	FACU			195		690	(B)
3					_				: 2	
4						70 (177000000000000000000000000000000000	e Index =	antonian /		_
5					1 -		egetation			
6							est for Hyd nce Test is		regetation	
7					1,0.37 33		nce Index i			
8.					- 1				(Provide su	pporting
9					-   -	data in F	Remarks or	on a sep	arate sheet	)
10		80	- Total	Cover	—   F	roblematic	: Hydrophy	tic Vegeta	ation <sup>1</sup> (Expla	ain)
Woody Vine Stratum (Plot size: 30 feet	)		- Total	Cover					d hydrology	must
1. Vitis rotundifolia	***	5	N	FAC	be pre	esent, unle	ess disturbe	ed or prob	lematic.	
2. Toxicodendron radicans	21 70		Y	FACU		ophytic				
% Bare Ground in Herb Stratum 20		25	= Total	Cover	Vege Prese	tation ent?	Yes	N	lo <u>×</u>	
Remarks:						ero e Resolutio			22	

Sampling Point: SP-1

Profile Descript	tion: (Descri	be to the	depth ne				or confirm	the absence	of indicators.	)
Depth	Matrix			olor (moist)	ox Feature	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)	Color (moist) YR 4/4			olor (moist)	%	Туре	LOC	Texture	Sandy loam	Remarks
0-12 10	7 111 4/4								Carray loan	
				1000 001					2	
				8-2 ( )   1						
									-	
										***************************************
		:			_					
¹Type: C=Conce	entration, D=D	epletion, F	RM=Redu	uced Matrix, C	S=Covered	d or Coate	d Sand Gr	ains. <sup>2</sup> Loc	cation: PL=Por	e Lining, M=Matrix.
Hydric Soil Indi										ic Hydric Soils <sup>3</sup> :
Histosol (A1	)			Sandy	Gleyed Ma	trix (S4)		1 cm N	luck (A9) (LRR	I, J)
Histic Epiped	don (A2)			Sandy	Redox (S5	)		Coast	Prairie Redox (	A16) (LRR F, G, H)
Black Histic	(A3)				d Matrix (S				urface (S7) (LI	
Hydrogen St					Mucky Mir			_ 0	lains Depression	
	yers (A5) (LR				Gleyed Ma			and the second s		f MLRA 72 & 73)
	A9) (LRR F, C			100 - 100 -	ed Matrix (I	S. Salara S		2000	ed Vertic (F18)	
to the second second second second second	low Dark Surf Surface (A12)	ace (ATT)			Dark Surfa ed Dark Su				arent Material ( <sup>*</sup> hallow Dark Su	
to the second se	y Mineral (S1	)			Depression				Explain in Rem	
	ky Peat or Pea		R G, H)		ains Depre		16)		of hydrophytic	
	Peat or Peat				RA 72 & 7				hydrology mus	
								unless	disturbed or pre	oblematic.
Restrictive Laye	er (if present)	:								
Type:										v
Depth (inches	s):							Hydric Soil	Present? Ye	es No _X
Remarks:	1.41									
HYDROLOGY	9									
Wetland Hydrolo		s:								
Primary Indicator			ired: che	ck all that appl	v)			Seconda	ry Indicators (m	ninimum of two required)
X_ Surface Wat		r one requ	irou, orio	Salt Crust	V/1000				ace Soil Cracks	***************************************
High Water 7				Aquatic In		s (B13)				Concave Surface (B8)
Saturation (A				Hydrogen		350			nage Patterns (	
Water Marks			-	Dry-Seaso						eres on Living Roots (C3)
Sediment De	12 CON 12			Oxidized F			na Roots (		here tilled)	g (/
Drift Deposits					not tilled)		.5 (		fish Burrows (C	(8)
Algal Mat or				Presence		d Iron (C4)	)			n Aerial Imagery (C9)
Iron Deposits				Thin Muck		2.50	<b>(</b> )		morphic Positio	
	isible on Aeria	al Imagery		Other (Exp		253 NO 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			-Neutral Test (	
AND THE RESERVE AND THE PARTY	ed Leaves (B9		-							ocks (D7) (LRR F)
Field Observation		ž								9-
Surface Water Pr	esent?	Yes X	No	Depth (in	ches): 24					
Water Table Pres	sent?			Depth (in			_			
Saturation Preser				Depth (in			1	nd Hydrology	Present? Ye	es X No
(includes capillary	y fringe)	17870								
Describe Recorde	ed Data (strea	ım gauge,	monitorir	ng well, aerial p	ohotos, pre	evious insp	ections), if	f available:		
Remarks:										

Project/Site: FM 2493		City/Co	ounty: Flint/Smith	County	Sampling Date: 4/16/15
Applicant/Owner: TxDOT			3.0	State: TX	Sampling Point: SP-2
Investigator(s): Matthew Clinton CWB		Sectio	n, Township, Ra	ange:	
Landform (hillslope, terrace, etc.): water crossing		Local	relief (concave,	convex, none): concave	Slope (%): 4
Subregion (LRR): LRR J	Lat: 32.1	191761		_ Long:95.345610	Datum:
Soil Map Unit Name: Redsprings very gravelly sandy loam			16	NWI classific	cation:
Are climatic / hydrologic conditions on the site typical for t	his time of ye	ear? Ye	es X No _	(If no, explain in F	Remarks.)
Are Vegetation, Soil, or Hydrology	_significantly	disturb	ed? Are	"Normal Circumstances"	present? Yes X No No No
Are Vegetation, Soil, or Hydrology	_ naturally pro	oblemat	tic? (If no	eeded, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS - Attach site maj	p showing	sam	pling point l	ocations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No ×		l. 41 - Cl	1	
Hydric Soil Present? Yes			Is the Sampled within a Wetla		No ×
Wetland Hydrology Present? Yes X			within a wella	nor res	NO
Remarks:					
Second unnamed tributary of Shackle	ford Cree	ek			
VEGETATION – Use scientific names of pla	nte				
VEGETATION – Ose scientific flames of pla	Absolute	Domi	nant Indicator	Dominance Test work	rshoot:
<u>Tree Stratum</u> (Plot size: 30 feet)			ies? Status	Number of Dominant S	
1. Celtis occidentalis	30	Υ	FACU	That Are OBL, FACW,	or FAC
2.				(excluding FAC-):	(A)
3				Total Number of Domin	
4				Species Across All Stra	eta: 6 (B)
Continuo (Charles Charles (Charles 30 feet	30	= Tota	l Cover	Percent of Dominant Sp	
Sapling/Shrub Stratum (Plot size: 30 feet )				That Are OBL, FACW,	or FAC: 16 (A/B)
1				Prevalence Index wor	ksheet:
2.				Total % Cover of:	Multiply by:
3 4				OBL species 5	x 1 = 5
5		-		The second secon	x 2 =
		= Total	l Cover		x 3 =
Herb Stratum (Plot size: 30 feet )				FACU species 120	-135 (VA 10 A
1. Juncus effusus	5	N	OBL		x 5 = 25
2. Ambrosia artemesiifolia	_ 5	N	UPL TAG	Column Totals: 150	(A) <u>570</u> (B)
Stenotaphrum secundatum     Cynodon dactylon	<u>20</u> 30	Y	FACU FACU	Prevalence Index	= B/A = 3.80
5. Sorghum halepense	20	Y	FACU	Hydrophytic Vegetation	
				1 - Rapid Test for H	Hydrophytic Vegetation
6				2 - Dominance Tes	t is >50%
7 8		-		3 - Prevalence Inde	ex is ≤3.0 <sup>1</sup>
9		-			Adaptations <sup>1</sup> (Provide supporting
10.		-			s or on a separate sheet) phytic Vegetation¹ (Explain)
	80	= Total	Cover	Problematic Hydrop	mytic vegetation (Explain)
Woody Vine Stratum (Plot size: 30 feet )				<sup>1</sup> Indicators of hydric soil be present, unless distu	l and wetland hydrology must
Toxicodendron radicans     Parthenocissus quinquefolia	20	Y Y	FACU		nod or problemate.
2. Partnenocissus quinquerolla				Hydrophytic Vegetation	
% Bare Ground in Herb Stratum 20		= Total	Cover		s No _X
Remarks:				L	

Depth	Matrix		Redo	x Features				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-2	10 YR 4/4							Sandy silt with pebbles
3-12	10 YR 3/4							Silty clay
		2.20						
	-							
				0				
Type: C=Cc	ncentration, D=De	epletion RM=Re	duced Matrix, CS	=Covered	or Coate	 d Sand Gr	ains. <sup>2</sup> Loc	cation: PL=Pore Lining, M=Matrix.
	ndicators: (Appli	*				a dana di		for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Sandy G	Sleyed Mat	trix (S4)		1 cm N	Muck (A9) (LRR I, J)
Histic Ep	ipedon (A2)		Sandy R	edox (S5)			Coast	Prairie Redox (A16) (LRR F, G, H)
Black His	stic (A3)			Matrix (S			Dark S	Surface (S7) (LRR G)
	n Sulfide (A4)			Aucky Min			Commission Commission Commission	lains Depressions (F16)
The second section is a second section of the section of th	Layers (A5) (LRR			Sleyed Ma			•	R H outside of MLRA 72 & 73)
	ck (A9) ( <b>LRR F, G</b>	Marie Committee of the		d Matrix (F				ed Vertic (F18)
	Below Dark Surfa	ice (A11)		ark Surfac	(5)			arent Material (TF2)
	rk Surface (A12)			Dark Sur				hallow Dark Surface (TF12)
	ucky Mineral (S1)			epression	- 30			(Explain in Remarks)
	ucky Peat or Peat			ins Depre				of hydrophytic vegetation and
_ 5 cm Mu	cky Peat or Peat (	53) (LRR F)	(MLI	RA 72 & 7	3 Of LKK	H)		d hydrology must be present, disturbed or problematic.
estrictive L	ayer (if present):			· · · · · · · · · · · · · · · · · · ·		***	unicoo	distance of problematic.
Туре:			-					
	hes):		-				Hydric Soil	Present? Yes No X
	hes):		-				Hydric Soil	Present? Yes No _X
Depth (inc	hes):		-				Hydric Soil	Present? Yes No X
Depth (inc	hes):		-				Hydric Soil	Present? Yes No X
Depth (inc			-				Hydric Soil	Present? YesNo X
Depth (inc Remarks:			-					
Depth (inc Remarks: YDROLOG Vetland Hyd	GY	::	eck all that apply	)				Present? Yes No X
Depth (inc Remarks: YDROLOG Vetland Hyd Primary Indica	GY rology Indicators ators (minimum of	::	eck all that apply	NO.			Seconda	
Depth (inc Remarks: YDROLOC Vetland Hyd Vetland Hyd Vetland Indica X Surface \	GY rology Indicators ators (minimum of	::		B11)	(B13)		Seconda Surf	ry Indicators (minimum of two require
Depth (inc Remarks: YDROLOC Vetland Hyd Primary Indica X Surface \	GY rology Indicators ators (minimum of Water (A1) er Table (A2)	::	Salt Crust	B11) ertebrates			Seconda Surf Spar	rry Indicators (minimum of two require face Soil Cracks (B6)
Depth (inc Remarks: YDROLOG Vetland Hyd Primary Indica X Surface \ High Wat	rology Indicators ators (minimum of Water (A1) er Table (A2) n (A3)	::	Salt Crust (	B11) ertebrates Sulfide Ode	or (C1)		Seconda Surf Spai Draii	ry Indicators (minimum of two require ace Soil Cracks (B6) rsely Vegetated Concave Surface (B8
Depth (inc Remarks: YDROLOG Vetland Hyd Primary Indica X Surface V High Wat Saturation Water Ma	rology Indicators ators (minimum of Water (A1) er Table (A2) n (A3)	::	Salt Crust ( Aquatic Inv Hydrogen S	B11) ertebrates Sulfide Odo Water Ta	or (C1) able (C2)	ng Roots (	Seconda Surf Spai Draii Oxid	ry Indicators (minimum of two require face Soil Cracks (B6) rsely Vegetated Concave Surface (B8 nage Patterns (B10)
Depth (inc Remarks: YDROLOG Vetland Hyd Primary Indica X Surface V High Wat Saturation Water Ma	rology Indicators ators (minimum of Water (A1) er Table (A2) in (A3) arks (B1)	::	Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor	B11) ertebrates Sulfide Odo n Water Ta	or (C1) able (C2)	ng Roots (	Seconda Surf Spai Draii Oxid	ry Indicators (minimum of two require face Soil Cracks (B6) rsely Vegetated Concave Surface (B8 nage Patterns (B10) lized Rhizospheres on Living Roots (0
Depth (inc Remarks: YDROLOC Vetland Hyd Primary Indica X Surface V High Wat Saturation Water Ma Sediment Drift Depo	rology Indicators ators (minimum of Water (A1) er Table (A2) in (A3) arks (B1)	::	Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R	B11) ertebrates Sulfide Odd n Water Ta hizosphere ot tilled)	or (C1) able (C2) es on Livir		Seconda Surf Spai Draii Oxid C3) (w Cray	ry Indicators (minimum of two require face Soil Cracks (B6) rsely Vegetated Concave Surface (B8 nage Patterns (B10) lized Rhizospheres on Living Roots (C
Depth (inc Remarks: YDROLOG Vetland Hyd Z Surface V High Wat Saturation Water Ma Sediment Drift Depo	rology Indicators ators (minimum of Water (A1) er Table (A2) in (A3) arks (B1) is Deposits (B2) posits (B3) or Crust (B4)	::	Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n	B11) ertebrates Sulfide Odd n Water Ta hizosphere ot tilled) f Reduced	or (C1) able (C2) es on Livir I Iron (C4)		Seconda Surf Spai Oxid Oxid C3) (w Cray Satu	ry Indicators (minimum of two require face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) lized Rhizospheres on Living Roots (Continue tilled) rfish Burrows (C8) rration Visible on Aerial Imagery (C9)
Depth (inc Remarks: YDROLOC Vetland Hyd Primary Indica X Surface V High Wat Saturation Water Ma Sediment Drift Depo	rology Indicators ators (minimum of Water (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5)	one required; ch	Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o Thin Muck	(B11) ertebrates Sulfide Odd n Water Ta hizosphere ot tilled) f Reduced Surface (C	or (C1) able (C2) es on Livir I Iron (C4)		Seconda  Surf Spai Oxid C3) (w Cray Satu Geor	rry Indicators (minimum of two require face Soil Cracks (B6) rsely Vegetated Concave Surface (B8 nage Patterns (B10) lized Rhizospheres on Living Roots (Chere tilled) rfish Burrows (C8) rration Visible on Aerial Imagery (C9) morphic Position (D2)
Depth (inc Remarks: YDROLOG Vetland Hyd Primary Indica X Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio	rology Indicators ators (minimum of Water (A1) er Table (A2) n (A3) arks (B1) E Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aerial	one required; ch	Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n	(B11) ertebrates Sulfide Odd n Water Ta hizosphere ot tilled) f Reduced Surface (C	or (C1) able (C2) es on Livir I Iron (C4)		Seconda  Surf Spai Draii Oxid C3) (w Cray Satu Geoi	rry Indicators (minimum of two require face Soil Cracks (B6) rsely Vegetated Concave Surface (B8 nage Patterns (B10) lized Rhizospheres on Living Roots (Chere tilled) fish Burrows (C8) rration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5)
Depth (inc Remarks:  YDROLOG  Vetland Hyd  Primary Indica  X Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Water-Sta	rology Indicators ators (minimum of Water (A1) er Table (A2) n (A3) arks (B1) E Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aerial ained Leaves (B9)	one required; ch	Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o Thin Muck	(B11) ertebrates Sulfide Odd n Water Ta hizosphere ot tilled) f Reduced Surface (C	or (C1) able (C2) es on Livir I Iron (C4)		Seconda  Surf Spai Draii Oxid C3) (w Cray Satu Geoi	rry Indicators (minimum of two require face Soil Cracks (B6) rsely Vegetated Concave Surface (B8 nage Patterns (B10) lized Rhizospheres on Living Roots (Chere tilled) rfish Burrows (C8) rration Visible on Aerial Imagery (C9) morphic Position (D2)
Depth (inc Remarks: YDROLOG Vetland Hyd Vetland Hyd X Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Water-Sta	rology Indicators ators (minimum of Water (A1) er Table (A2) in (A3) arks (B1) is Deposits (B2) posits (B3) or Crust (B4) posits (B5) in Visible on Aerial ained Leaves (B9) ations:	one required; ch	Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o Thin Muck S Other (Expl	(B11) ertebrates Sulfide Ode n Water Ta hizosphere ot tilled) f Reduced Surface (C	or (C1) able (C2) es on Livir I Iron (C4) c7) narks)		Seconda  Surf Spai Draii Oxid C3) (w Cray Satu Geoi	rry Indicators (minimum of two require face Soil Cracks (B6) rsely Vegetated Concave Surface (B8 nage Patterns (B10) lized Rhizospheres on Living Roots (Chere tilled) fish Burrows (C8) rration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5)
Depth (incontention of the contention of the con	rology Indicators ators (minimum of Water (A1) er Table (A2) n (A3) arks (B1) c Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial ained Leaves (B9) ations: r Present?	one required; ch	Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o Thin Muck S Other (Expl	(B11) ertebrates Sulfide Odd n Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren	or (C1) able (C2) es on Livir I Iron (C4) C7) narks)	_	Seconda  Surf Spai Draii Oxid C3) (w Cray Satu Geoi	rry Indicators (minimum of two require face Soil Cracks (B6) rsely Vegetated Concave Surface (B8 nage Patterns (B10) lized Rhizospheres on Living Roots (Chere tilled) fish Burrows (C8) rration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5)
Depth (inc Remarks:  YDROLOG  Vetland Hyd  Primary Indica  X Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Water-Sta  Geld Observe  Vater Table F	rology Indicators ators (minimum of Nater (A1) er Table (A2) n (A3) arks (B1) c Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial ained Leaves (B9) ations: r Present?	one required; che imagery (B7)  Yes X No Yes No	Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o Thin Muck S Other (Expl	B11) ertebrates Sulfide Odd n Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren hes): 36	or (C1) able (C2) es on Livir I Iron (C4) (C7) narks)	-	Seconda  Surf Spai Draii Oxid C3) (w Cray Satu Geoi FAC Fros	ry Indicators (minimum of two require face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) lized Rhizospheres on Living Roots (Concave tilled) rfish Burrows (C8) rration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5) t-Heave Hummocks (D7) (LRR F)
Primary Indica  X Surface V High Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Water-Sta  Gurface Water  Water Sta  Water-Sta  Gurface Water	rology Indicators ators (minimum of Water (A1) er Table (A2) n (A3) arks (B1) a Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aerial ained Leaves (B9) ations: a Present?	one required; che imagery (B7)  Yes X No Yes No	Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o Thin Muck S Other (Expl	B11) ertebrates Sulfide Odd n Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren hes): 36	or (C1) able (C2) es on Livir I Iron (C4) (C7) narks)	-	Seconda  Surf Spai Draii Oxid C3) (w Cray Satu Geoi FAC Fros	rry Indicators (minimum of two require face Soil Cracks (B6) rsely Vegetated Concave Surface (B8 nage Patterns (B10) lized Rhizospheres on Living Roots (Chere tilled) fish Burrows (C8) rration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5)
Depth (inc Remarks:  YDROLOC Vetland Hyd Primary Indica X Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Water-Sta Gurface Water Vater Table For Includes capi	rology Indicators ators (minimum of Water (A1) er Table (A2) n (A3) arks (B1) a Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aerial ained Leaves (B9) ations: a Present?	::  one required; ch  Imagery (B7)  Yes X No _ Yes No _ Yes No _ Yes No _	Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o Thin Muck S Other (Expl	B11) ertebrates Sulfide Odd n Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren hes):	or (C1) able (C2) es on Livir I Iron (C4) c7) narks)	- - - Wetla	Seconda  Surf Spai Draii Oxid C3) (w Satu Geor FAC Fros	ry Indicators (minimum of two require face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) lized Rhizospheres on Living Roots (Concave tilled) rfish Burrows (C8) rration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5) t-Heave Hummocks (D7) (LRR F)
Depth (inc Remarks:  YDROLOG  Vetland Hyd Primary Indica X Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Water-Sta  Veter Table F Saturation Pre Includes capi Describe Reco	rology Indicators ators (minimum of Water (A1) er Table (A2) in (A3) arks (B1) is Deposits (B2) posits (B3) or Crust (B4) posits (B5) in Visible on Aerial ained Leaves (B9) ations: ir Present? Present? llary fringe)	::  one required; ch  Imagery (B7)  Yes X No _ Yes No _ Yes No _ Yes No _	Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o Thin Muck S Other (Expl	B11) ertebrates Sulfide Odd n Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren hes):	or (C1) able (C2) es on Livir I Iron (C4) c7) narks)	- - - Wetla	Seconda  Surf Spai Draii Oxid C3) (w Satu Geor FAC Fros	ry Indicators (minimum of two require face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) lized Rhizospheres on Living Roots (Concave tilled) rfish Burrows (C8) rration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5) t-Heave Hummocks (D7) (LRR F)
Depth (incomendation products and the control of th	rology Indicators ators (minimum of Water (A1) er Table (A2) in (A3) arks (B1) is Deposits (B2) posits (B3) or Crust (B4) posits (B5) in Visible on Aerial ained Leaves (B9) ations: ir Present? Present? llary fringe)	::  one required; ch  Imagery (B7)  Yes X No _ Yes No _ Yes No _ Yes No _	Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o Thin Muck S Other (Expl	B11) ertebrates Sulfide Odd n Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren hes):	or (C1) able (C2) es on Livir I Iron (C4) c7) narks)	- - - Wetla	Seconda  Surf Spai Draii Oxid C3) (w Satu Geor FAC Fros	ry Indicators (minimum of two require face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) lized Rhizospheres on Living Roots (Concave tilled) rfish Burrows (C8) rration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5) t-Heave Hummocks (D7) (LRR F)

Project/Site: FM 2493		City/County	y: Flint/Smith	County	Sampling Date: 4/16/15
Applicant/Owner: TxDOT				State: TX	Sampling Point: SP-3
Investigator(s): Matthew Clinton CWB		Section, To	ownship, Ra	ange:	
Landform (hillslope, terrace, etc.): forest area		Local relie	f (concave,	convex, none): _none	Slope (%):
Subregion (LRR): LRR J	Lat: 32.1	255404		Long: -95.306812	Datum:
Soil Map Unit Name: Wolfpen loamy fine sand				NWI classifica	tion:
Are climatic / hydrologic conditions on the site typical for th	is time of ye	ar? Yes X	No _	(If no, explain in Re	marks.)
Are Vegetation, Soil, or Hydrology	significantly	disturbed?	Are	"Normal Circumstances" pro	esent? Yes X No
Are Vegetation, Soil, or Hydrology	naturally pro	blematic?	(If ne	eeded, explain any answers	in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	samplin	ıg point l	ocations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes N	lo X				
Hydric Soil Present? Yes N			ne Sampleo nin a Wetla		No <u>×</u>
Wetland Hydrology Present? Yes N		With	iin a vvetiai	nd? res	_ NO
Remarks:		120000			
Forested area along abandoned railroa	ad corrid	or			
VEGETATION – Use scientific names of plan	nts.				
	Absolute	Dominant	Indicator	Dominance Test worksl	heet:
Tree Stratum (Plot size: 30 feet )		Species?		Number of Dominant Spe	
1. Ulmus americana	30	Y Y	FACU	That Are OBL, FACW, or (excluding FAC-):	FAC (A)
2. Celtis occidentalis				AND THE CONTRACT OF THE SERVICE OF THE	• • • • • • • • • • • • • • • • • • • •
3				Total Number of Dominar Species Across All Strata	7
4		= Total Cov			,
Sapling/Shrub Stratum (Plot size: 30 feet )		- 10101 00	VCI	Percent of Dominant Spe That Are OBL, FACW, or	
1. Ulmus americana	20	Υ	FAC	Prevalence Index works	haati
2. Celtis occidentalis		<u>Y</u>	FACU	Total % Cover of:	
3				OBL species	
4				FACW species	
5	40	= Total Cov		FAC species 50	x 3 = 150
Herb Stratum (Plot size: 30 feet )		- Total Cov	/ei	FACU species 130	x 4 = 520
1. Cynodon dactylon	20	<u>Y</u>	FACU	UPL species	x 5 =
2. Sorghum halepense	20	Υ	FACU	Column Totals: 180	(A) <u>670</u> (B)
3. Rubus trivialis	15	<u>N</u>	FACU	Prevalence Index =	= B/A = 3.72
4		7 <u>-2-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-</u>		Hydrophytic Vegetation	TO A STATE OF THE
5				1 - Rapid Test for Hy	
6				2 - Dominance Test is	s >50%
7 8				3 - Prevalence Index	
9.			<del></del> /	4 - Morphological Ada	aptations <sup>1</sup> (Provide supporting
10				Problematic Hydroph	or on a separate sheet)
		= Total Cov	ver		
Woody Vine Stratum (Plot size: 30 feet)  1. Toxicodendron radicans	20	Υ	FACU	<sup>1</sup> Indicators of hydric soil a be present, unless disturb	nd wetland hydrology must bed or problematic.
2.				Hydrophytic	
	20	= Total Cov	er	Vegetation	v
% Bare Ground in Herb Stratum 45				Present? Yes_	No X
Remarks:					

Sampling	Doint	SP-3	
Sampling	Point:		

C	0	ı	ı
J	v	ı	_

Profile Des	cription: (Descri	be to the depth r	needed to docu	ment the i	ndicator	or confirn	n the absence	of indicators.)			
Depth Matrix			Redox Features								
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks			
0-12	2. YR 3/6							Red sandy clay			
	-						0				
							·				
1T C=C		Naniation DM-Da	ducad Matrix C					nation: DI =Doro Lining M=Matrix			
		epletion, RM=Re licable to all LRF				d Sand Gr		cation: PL=Pore Lining, M=Matrix.  for Problematic Hydric Soils <sup>3</sup> :			
Histosol	180 805	mouble to an Erti		Gleyed Ma				Muck (A9) (LRR I, J)			
	pipedon (A2)			Redox (S5)				Prairie Redox (A16) (LRR F, G, H)			
	istic (A3)			d Matrix (S			Dark Surface (S7) (LRR G)				
CONTRACTOR OF CO	en Sulfide (A4)			Mucky Min			High Plains Depressions (F16)				
	d Layers (A5) (LR	RF)		Gleyed Ma			(LRR H outside of MLRA 72 & 73)				
1 cm Mu	uck (A9) (LRR F, 6	G, H)	Deplete	ed Matrix (F	3)		45	ed Vertic (F18)			
	d Below Dark Sur	face (A11)		Dark Surfa				arent Material (TF2)			
	ark Surface (A12)			ed Dark Sui				hallow Dark Surface (TF12)			
	lucky Mineral (S1			Depression		10)	0.00	(Explain in Remarks)			
	riucky Peat or Peat icky Peat or Peat	at (S2) (LRR G, H		ains Depre .RA 72 & 7				of hydrophytic vegetation and d hydrology must be present,			
5 CITI MIC	icky real of real	(33) (LKK F)	(IAIL	.KA 12 0: 1	3 OI LKK	п)		disturbed or problematic.			
Restrictive I	Layer (if present)	:	804784				1	distance of problematic.			
Type:											
	ches):						Hydric Soil	Present? Yes No X			
Remarks:			-								
rtornamo.											
HYDROLO						_					
	drology Indicator										
		f one required; ch		AND THE RESERVE OF THE PARTY OF				ry Indicators (minimum of two required)			
S	Water (A1)		Salt Crust					ace Soil Cracks (B6)			
	ter Table (A2)		Aquatic In					rsely Vegetated Concave Surface (B8)			
Saturation				Sulfide Od				nage Patterns (B10)			
	arks (B1)		Dry-Seaso					lized Rhizospheres on Living Roots (C3)			
2000 2000 1000	nt Deposits (B2)		Oxidized F		es on Livir	ng Roots (		here tilled)			
A CONTRACTOR OF THE PARTY OF TH	oosits (B3)		open A n n	not tilled)	(2.1)			fish Burrows (C8)			
100	t or Crust (B4)		Presence			)		ration Visible on Aerial Imagery (C9)			
	osits (B5)	-l Image / 57		Surface (C				morphic Position (D2)			
	on Visible on Aeria		Other (Exp	olain in Rer	narks)			-Neutral Test (D5)			
	tained Leaves (B9	')					Fros	t-Heave Hummocks (D7) (LRR F)			
Field Observ		Vaa Na	Donth (in	ahaa):							
Surface Wate		Yes No _				- 1					
Water Table		Yes No _						x			
Saturation Pr (includes cap		Yes No _	Depth (inc	ches):		_   Wetla	nd Hydrology	Present? Yes No X			
		ım gauge, monitor	ing well, aerial p	photos, pre	vious insp	ections), i	f available:				
Remarks:							- 10 - A				

Project/Site: FM 2493			City/Cou	nty: Flint/Smith	County	Sampling Date: 7-11-2018	
Applicant/Owner: TxDOT						Sampling Point: SP-4	
Investigator(s): J. Casbeer			Section,	Township, Ra	ange:		
Landform (hillslope, terrace, etc.): water	crossing		Local re	lief (concave,	convex, none): concave	Slope (%): 4	
Subregion (LRR): LRR J		Lat: 32.	124056		_ Long: <u>-95.306513</u>	Datum:	
Soil Map Unit Name: Alto clay loam					NWI classific	cation:	
Are climatic / hydrologic conditions on t	he site typical for	this time of ye	ar? Yes	No _	(If no, explain in R	temarks.)	
Are Vegetation, Soil, or	Hydrology	_ significantly	disturbed	d? Are	"Normal Circumstances" p	present? Yes X No	
Are Vegetation, Soil, or	Hydrology	_ naturally pro	blematic	? (If n	eeded, explain any answe	rs in Remarks.)	
SUMMARY OF FINDINGS - A	ttach site ma	p showing	sampl	ling point l	locations, transects	, important features, etc.	
Hydrophytic Vegetation Present?	Yes	No X					
Hydric Soil Present?		No X within a Wetla				No X	
Wetland Hydrology Present?			w	ithin a vvetia	nu? Tes	NO	
Remarks:	20(*(Ade) 1.003)	Seekil .					
First unnamed tributary of	Rome Bran	nch					
VEGETATION – Use scientific	names of nla	ants					
TEGETATION GGC GGICINIIIG	numes of pic	Absolute	Domina	ant Indicator	Dominance Test work	sheet:	
Tree Stratum (Plot size: 30 feet	)			s? Status	Number of Dominant Sp		
1. Celtis occidentalis		20	Y	FACU	That Are OBL, FACW,	or FAC	
2			::		(excluding FAC-):	<u>0</u> (A)	
3	4.00				Total Number of Domin	0	
4	····				Species Across All Stra	ta: (B)	
Sapling/Shrub Stratum (Plot size: 30	feet \	20	= Total C	Cover	Percent of Dominant Sp	pecies	
1. Celtis occidentalis	/	15	N	FACU	That Are OBL, FACW, o	or FAC: 0 (A/B)	
2.					Prevalence Index worl	ksheet:	
3.						Multiply by:	
4.						x 1 = 5	
5						x 2 =	
20 foot		15	= Total C	Cover		x 3 =	
Herb Stratum (Plot size: 30 feet  1. Sorghum halepense	)	40	Υ	FACU	FACU species 120		
Cynodon dactylon	****	40	Y	FACU	3 Daniel 1	x 5 = (A) <sup>485</sup> (B)	
3. Juncus effusus		5	N	OBL	Column Totals:	(A) (B)	
4					Prevalence Index	= B/A = 3.88	
5		1 2 2 2 2 2			Hydrophytic Vegetatio	n Indicators:	
6			-		1 - Rapid Test for H	ydrophytic Vegetation	
7.					2 - Dominance Test		
8					3 - Prevalence Inde		
9.					4 - Morphological A	daptations <sup>1</sup> (Provide supporting or on a separate sheet)	
10					F com cont to the same	ohytic Vegetation¹ (Explain)	
20 foo		85	= Total C	over		,	
Woody Vine Stratum (Plot size: 30 fee  1 Toxicodendron radicans	)	5	N	FACU	be present, unless distu	and wetland hydrology must rbed or problematic.	
1.			.,				
2.		5 .	- Total 0		Hydrophytic Vegetation		
% Bare Ground in Herb Stratum 15	5 = Total Cover			Present? Yes No _X			
Remarks:		2.00				2	

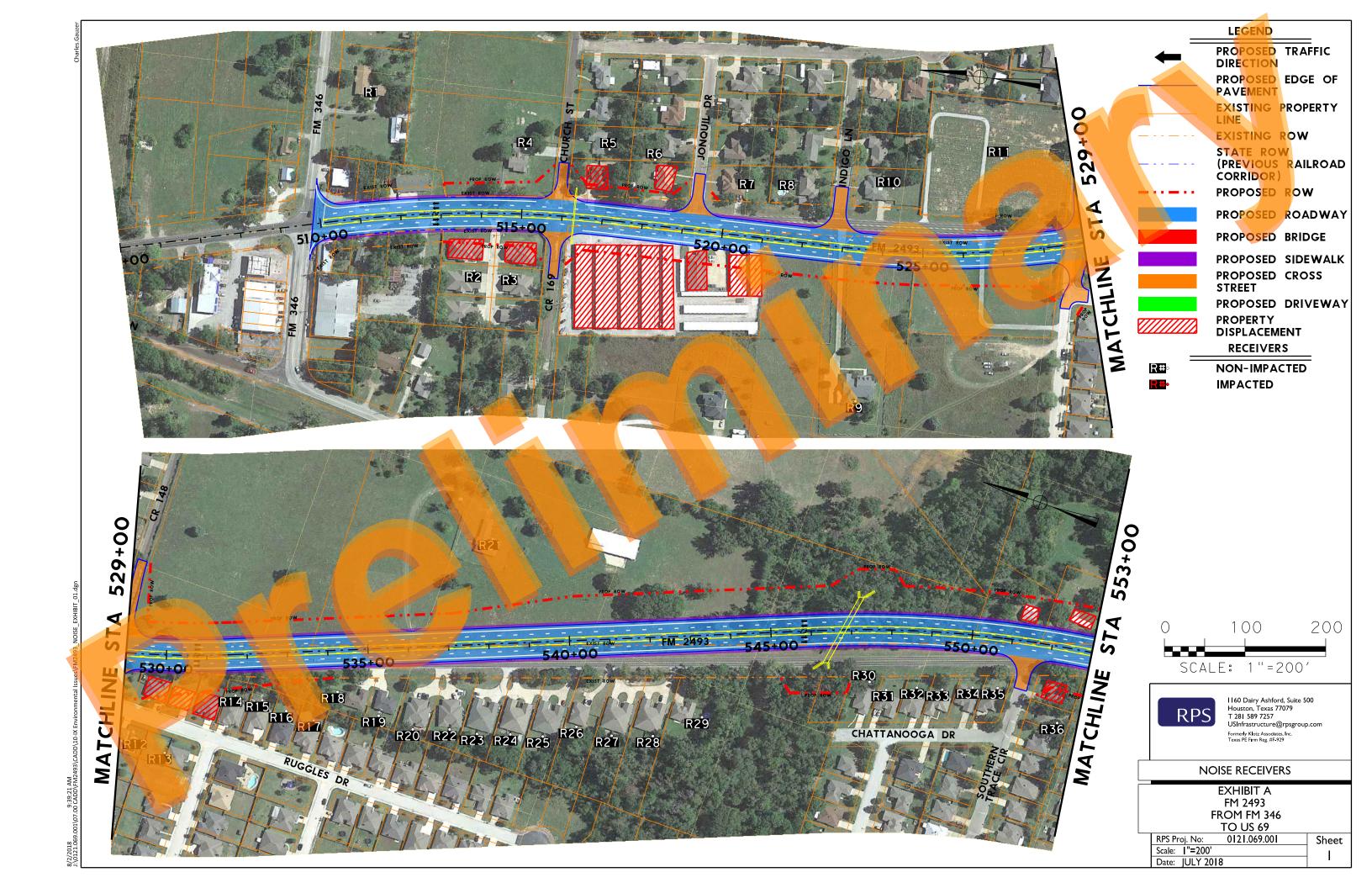
Sampling Point: SP-4

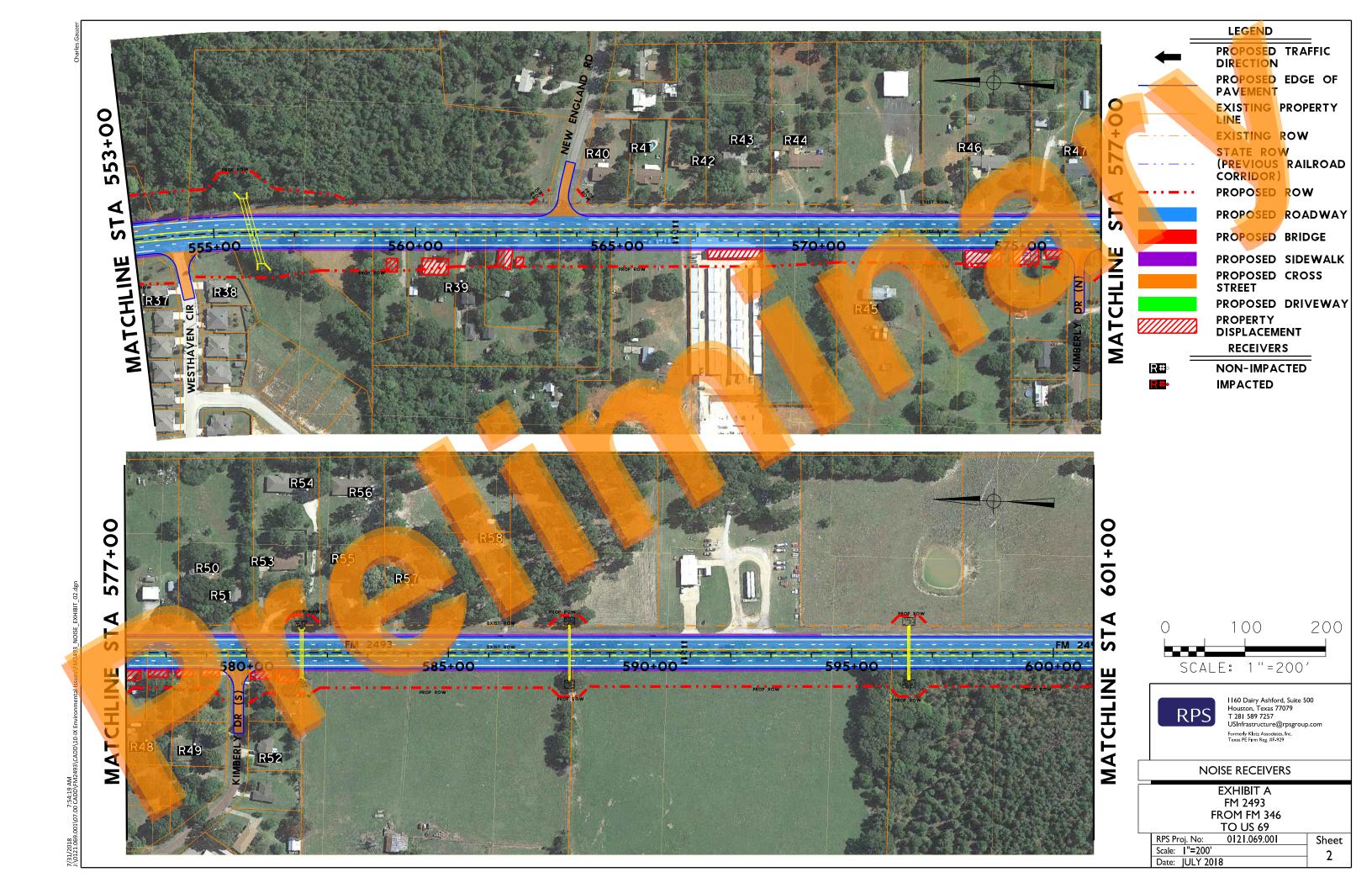
#### SOIL

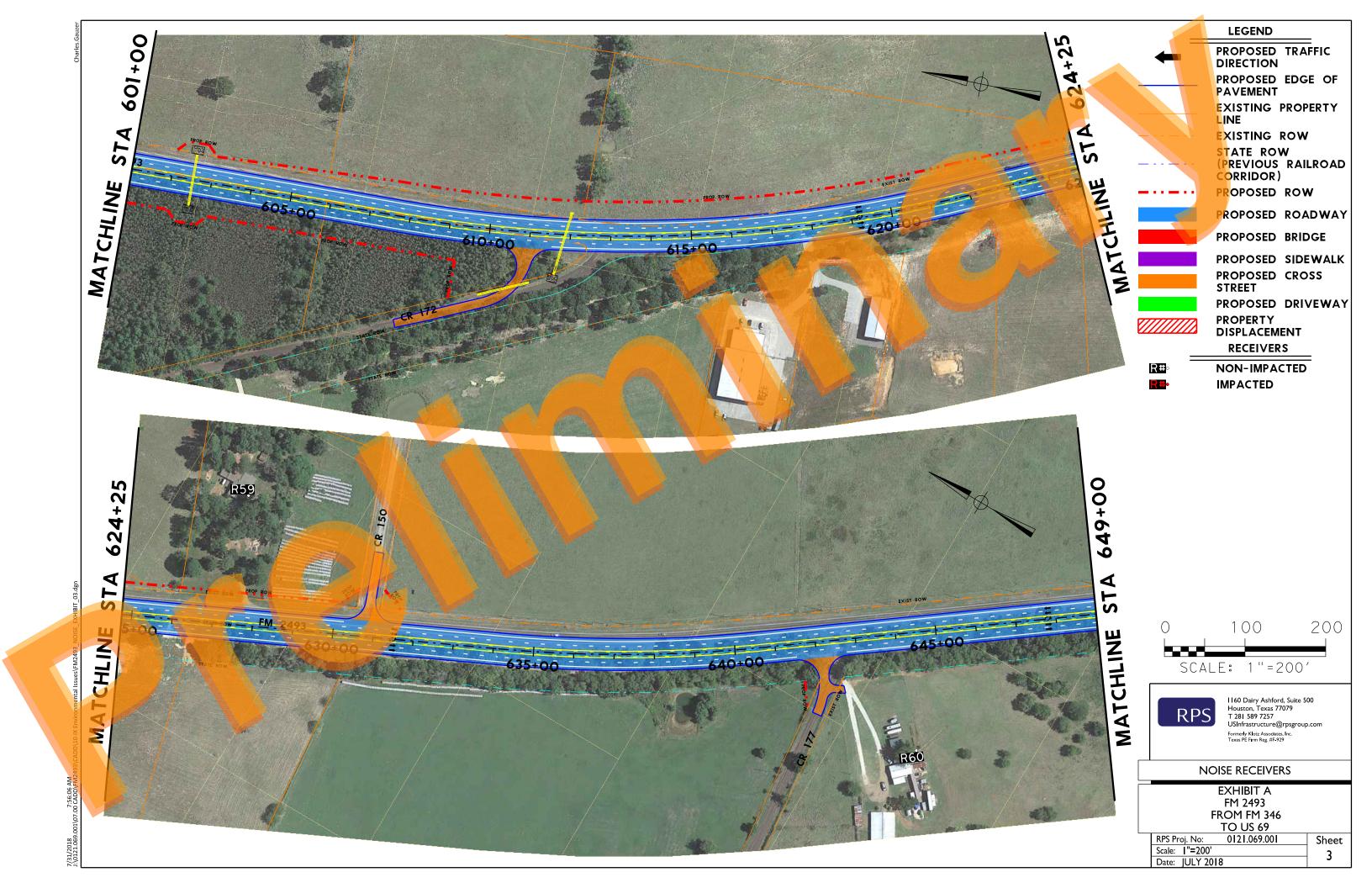
Profile Description:	Principle No. 10	the depth ne				or confirn	n the absence	of indicators.)			
Depth Cold	Matrix or (moist)	% C	Rede olor (moist)	ox Feature %	Type <sup>1</sup>	Loc²	Texture	Remarks			
0-12 10 YR	and the state of	, <del>0</del>	Oloi (IIIOISI)		Турс	LOC	Texture	Sandy loam			
				-							
								***************************************			
							( <del>)(()</del> ()				
							-				
¹Type: C=Concentrat	ion D-Donlo	tion DM=Dade	road Matrix C	C-Causes		d Cond Cr		notion: DI =Doro Lining M-Metrix			
Hydric Soil Indicato						u Sanu Gr		cation: PL=Pore Lining, M=Matrix.  for Problematic Hydric Soils <sup>3</sup> :			
	is. (Applical	ne to an ERRA									
Histosol (A1) Histic Epipedon (	A2)			Gleyed Ma Redox (S5				Muck (A9) (LRR I, J)			
Black Histic (A3)	A2)			d Matrix (S	-		Coast Prairie Redox (A16) (LRR F, G, H) Dark Surface (S7) (LRR G)				
Hydrogen Sulfide	(A4)			Mucky Mir			High Plains Depressions (F16)				
Stratified Layers				Gleyed Ma	2 6		(LRR H outside of MLRA 72 & 73)				
1 cm Muck (A9) (				ed Matrix (F			Reduced Vertic (F18)				
Depleted Below [				Dark Surfa			Red Parent Material (TF2)				
Thick Dark Surfa		5 (5)		d Dark Su			Very Shallow Dark Surface (TF12)				
Sandy Mucky Mir	neral (S1)			Depression			Other (Explain in Remarks)				
2.5 cm Mucky Pe	at or Peat (S2	2) (LRR G, H)	High Pl	ains Depre	ssions (F	16)	3Indicators	of hydrophytic vegetation and			
5 cm Mucky Peat	or Peat (S3)	(LRR F)	(ML	RA 72 & 7	3 of LRR	H)	wetland	d hydrology must be present,			
							unless	disturbed or problematic.			
Restrictive Layer (if	present):										
Туре:											
Depth (inches):							Hydric Soil	Present? Yes No X			
Remarks:							1				
HYDROLOGY											
						4					
Wetland Hydrology I				,							
Primary Indicators (mi		required; ched						ry Indicators (minimum of two required)			
X Surface Water (A	1)	n=	Salt Crust	(B11)				ace Soil Cracks (B6)			
High Water Table	(A2)	-	Aquatic In	vertebrates	s (B13)		Spar	rsely Vegetated Concave Surface (B8)			
Saturation (A3)	-	Hydrogen	Sulfide Od	or (C1)		Drain	nage Patterns (B10)				
Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots							ized Rhizospheres on Living Roots (C3)				
Sediment Deposit	ts (B2)	_	Oxidized F	Rhizospher	es on Livir	ng Roots (	C3) (w	here tilled)			
Drift Deposits (B3	)		(where r	not tilled)			Cray	fish Burrows (C8)			
Algal Mat or Crus	t (B4)	_	Presence	of Reduced	d Iron (C4)	ŀ	Satu	ration Visible on Aerial Imagery (C9)			
Iron Deposits (B5	)	_	Thin Muck	Surface (0	27)		Geor	morphic Position (D2)			
Inundation Visible	on Aerial Ima	agery (B7)	Other (Exp	lain in Rer	marks)		FAC	-Neutral Test (D5)			
Water-Stained Le	aves (B9)						Fros	t-Heave Hummocks (D7) (LRR F)			
Field Observations:		1									
Surface Water Presen	t? Yes	X No	Depth (inc	ches): 15		_					
Water Table Present?		No		SV 101-90-701-907-11-9-1		50					
Saturation Present?		No					nd Hydrology	Present? Yes X No			
(includes capillary fring		NO	Deptir (int	J. 163)		-   wella	a riyarology				
Describe Recorded Da		auge, monitorin	g well, aerial p	hotos, pre	vious insp	ections), if	f available:				
Remarks:											

Project/Site: FM 2493		City/Co	ounty: Fli	int/Smith (	County	Sampling Date: 7-11-2018	
Applicant/Owner: TxDOT			***		State: _TX	Sampling Point: SP-5	
Investigator(s): J. Casbeer Section, Township, Range:							
Landform (hillslope, terrace, etc.): water crossing	Local relief (concave,				convex, none): concave	Slope (%): 4	
Subregion (LRR): LRRJ	Lat: 32.1	21145			Long:95.306147	Datum:	
Soil Map Unit Name: Alto clay loam						ation:	
Are climatic / hydrologic conditions on the site typical for th	is time of ye	ar? Ye	es X	_ No _	(If no, explain in Re	emarks.)	
Are Vegetation, Soil, or Hydrology	significantly	disturb	oed?	Are "	'Normal Circumstances" pr	resent? Yes X No	
Are Vegetation, Soil, or Hydrology	naturally pro	blemat	tic?	(If ne	eded, explain any answer	s in Remarks.)	
SUMMARY OF FINDINGS - Attach site map	showing	sam	pling p	oint l	ocations, transects,	important features, etc.	
Hydrophytic Vegetation Present? Yes	No X						
	No X			65			
Wetland Hydrology Present? Yes X			within a	Wetlan	nd? Yes	No <u>X</u>	
Remarks:			1000 00000				
Second unnamed tributary of Rome Br	anch						
VECETATION . He asigntific names of plan	.4-						
VEGETATION – Use scientific names of plan		<u> </u>					
Tree Stratum (Plot size: 30 feet )	Absolute % Cover		inant Indi ies? Sta		Dominance Test works		
1. Celtis occidentalis	25	Y	FAC		Number of Dominant Spo That Are OBL, FACW, or		
2.					(excluding FAC-):	<u>0</u> (A)	
3.					Total Number of Domina	nt	
4.					Species Across All Strata		
50000	0.5	= Total	l Cover		Percent of Dominant Spe	acias	
Sapling/Shrub Stratum (Plot size: 30 feet )					That Are OBL, FACW, or		
1. Celtis occidentalis		Υ	FAC	CU	Prevalence Index works	shoots	
2					Total % Cover of:		
3.						x 1 = 5	
4		× <del>.</del>				x 2 =	
5	20					x 3 =	
Herb Stratum (Plot size: 30 feet )		= Total	I Cover			x 4 = 520	
1. Sorghum halepense	40	Υ	FAC	ou		x 5 =	
2. Cynodon dactylon	40	Υ	FAC	U	Column Totals: 135		
3. Juncus effusus	5	N	OBL				
4					Prevalence Index =		
5					Hydrophytic Vegetation		
6					1 - Rapid Test for Hy	, , ,	
7					2 - Dominance Test i		
8					3 - Prevalence Index	laptations <sup>1</sup> (Provide supporting	
9					data in Remarks	or on a separate sheet)	
10					Problematic Hydroph	nytic Vegetation¹ (Explain)	
Woody Vine Stratum (Plot size: 30 feet)	85	= Total	l Cover		1 Indicators of hydric soil s	and wetland hydrology must	
1. Toxicodendron radicans	5	N	FAC	iu	be present, unless disturb		
2.					Undershie		
	5	= Total	Cover		Hydrophytic Vegetation	0.000	
% Bare Ground in Herb Stratum 15		iotal	30V6I			No <u>×</u>	
Remarks:					11270		

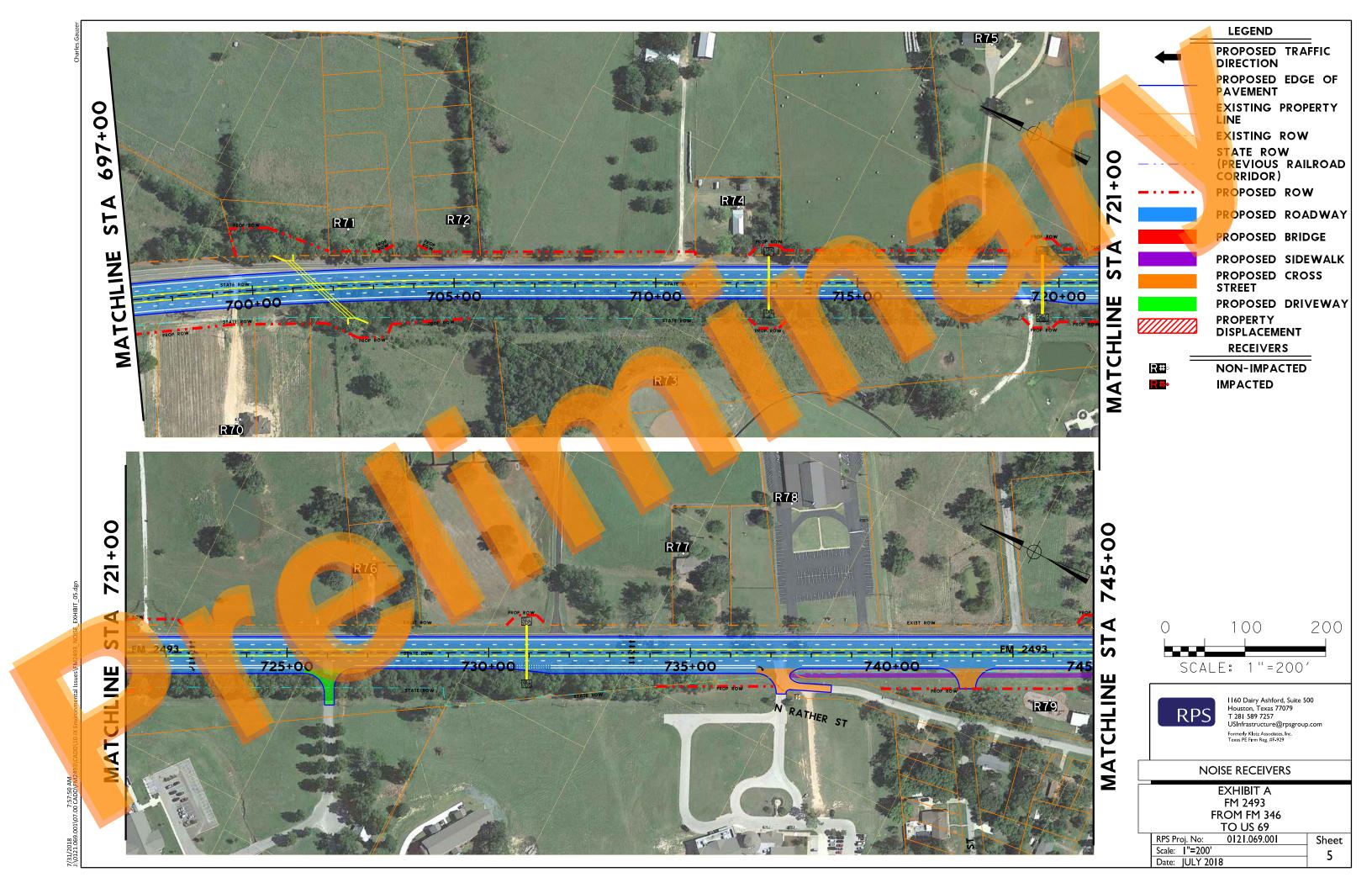
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Indicators: Histosol (A1)	ce of indicators.)		
¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ¹Time Soli Indicators: (As) (As)	Remarks		
Hvdric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Indicators: Indicators: (Applicable to all LRRs, unless otherwise noted.)  Indicators: Indicators: Sandy Gleyed Matrix (S4)	Sandy loam		
Hvdric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Indicators: Indicators: (Applicable to all LRRs, unless otherwise noted.)  Indicators:			
Hvdric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Indicators: Histosos (A1)	- : :		
Hvdric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  ∴ Histosos (A1)  ∴ Histosos (A2)  ∴ Histosos (A3)  ∴ Histosos (A3)  ☐ Sandy Gleyed Matrix (S6)  ☐ Black Histic (A3)  ☐ Stripped Matrix (S6)  ☐ Black Histic (A3)  ☐ Stripped Matrix (S6)  ☐ Dar Hydrogen Sulfide (A4)  ☐ Loamy Mucky Mineral (F1)  ☐ Loamy Gleyed Matrix (F2)  ☐ Loamy Gleyed Matrix (F2)  ☐ Loamy Gleyed Matrix (F3)  ☐ Stratified Layers (A5) (LRR F)  ☐ Loamy Gleyed Matrix (F3)  ☐ Red Matrix (F3)  ☐ Pepleted Below Dark Surface (A11)  ☐ Pepleted Dark Surface (F6)  ☐ Red Dark Surface (F6)  ☐ Red Dark Surface (F6)  ☐ Sandy Mucky Mineral (S1)  ☐ Depleted Dark Surface (F7)  ☐ Ver Sandy Mucky Mineral (S1)  ☐ Send Mucky Peat or Peat (S2) (LRR G, H)  ☐ Liph Plains Depressions (F8)  ☐ Oth  ☐ Som Mucky Peat or Peat (S3) (LRR F)  ☐ MILRA 72 & 73 of LRR H)  ☐ High Plains Depressions (F16)  ☐ Indicators (Minimum of one required; check all that apply)  ☐ Restrictive Layer (if present):  ☐ Type:  ☐ Depth (inches):  ☐ Depth (inches):  ☐ Primary Indicators (minimum of one required; check all that apply)  ☐ Second Matrix (B1)  ☐ Salt Crust (B11)  ☐ Salt Crust (B13)  ☐ Hydrogen Sulfide Odor (C1)  ☐ Dy Season Water Table (A2)  ☐ Salt Crust (B1)  ☐ Dry-Season Water Table (C2)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Water Marks (B1)  ☐ Dry-Season Water Table (C2)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ (Mehre not tilled)  ☐ Cy-Season Water Table (C2)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Inundation Visible on Aerial Imagery (B7)  ☐ Under-Stained Leaves (B9)  ☐ Inundation Visible on Aerial Imagery (B7)  ☐ Under-Stained Leaves (B9)  ☐ Field Observations:  ☐ Under-Stained Leaves (B9)  ☐ Field Observations:  ☐ Vertander Water Present?  ☐ Yes No Depth (inches):  ☐ Salt Crust (B1)  ☐ Depth (inches):  ☐ Salt Crust (B2)  ☐ Depth (inches):  ☐ Salt Crust (B3)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Oxidized Rhizospheres on Living Roo			
Hvdric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  ∴ Histosos (A1)  ∴ Histosos (A2)  ∴ Histosos (A3)  ∴ Histosos (A3)  ☐ Sandy Gleyed Matrix (S6)  ☐ Black Histic (A3)  ☐ Stripped Matrix (S6)  ☐ Black Histic (A3)  ☐ Stripped Matrix (S6)  ☐ Dar Hydrogen Sulfide (A4)  ☐ Loamy Mucky Mineral (F1)  ☐ Loamy Gleyed Matrix (F2)  ☐ Loamy Gleyed Matrix (F2)  ☐ Loamy Gleyed Matrix (F3)  ☐ Stratified Layers (A5) (LRR F)  ☐ Loamy Gleyed Matrix (F3)  ☐ Red Matrix (F3)  ☐ Pepleted Below Dark Surface (A11)  ☐ Pepleted Dark Surface (F6)  ☐ Red Dark Surface (F6)  ☐ Red Dark Surface (F6)  ☐ Sandy Mucky Mineral (S1)  ☐ Depleted Dark Surface (F7)  ☐ Ver Sandy Mucky Mineral (S1)  ☐ Send Mucky Peat or Peat (S2) (LRR G, H)  ☐ Liph Plains Depressions (F8)  ☐ Oth  ☐ Som Mucky Peat or Peat (S3) (LRR F)  ☐ MILRA 72 & 73 of LRR H)  ☐ High Plains Depressions (F16)  ☐ Indicators (Minimum of one required; check all that apply)  ☐ Restrictive Layer (if present):  ☐ Type:  ☐ Depth (inches):  ☐ Depth (inches):  ☐ Primary Indicators (minimum of one required; check all that apply)  ☐ Second Matrix (B1)  ☐ Salt Crust (B11)  ☐ Salt Crust (B13)  ☐ Hydrogen Sulfide Odor (C1)  ☐ Dy Season Water Table (A2)  ☐ Salt Crust (B1)  ☐ Dry-Season Water Table (C2)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Water Marks (B1)  ☐ Dry-Season Water Table (C2)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ (Mehre not tilled)  ☐ Cy-Season Water Table (C2)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Inundation Visible on Aerial Imagery (B7)  ☐ Under-Stained Leaves (B9)  ☐ Inundation Visible on Aerial Imagery (B7)  ☐ Under-Stained Leaves (B9)  ☐ Field Observations:  ☐ Under-Stained Leaves (B9)  ☐ Field Observations:  ☐ Vertander Water Present?  ☐ Yes No Depth (inches):  ☐ Salt Crust (B1)  ☐ Depth (inches):  ☐ Salt Crust (B2)  ☐ Depth (inches):  ☐ Salt Crust (B3)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Oxidized Rhizospheres on Living Roo			
Hvdric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  ∴ Histosos (A1)  ∴ Histosos (A2)  ∴ Histosos (A3)  ∴ Histosos (A3)  ☐ Sandy Gleyed Matrix (S6)  ☐ Black Histic (A3)  ☐ Stripped Matrix (S6)  ☐ Black Histic (A3)  ☐ Stripped Matrix (S6)  ☐ Dar Hydrogen Sulfide (A4)  ☐ Loamy Mucky Mineral (F1)  ☐ Loamy Gleyed Matrix (F2)  ☐ Loamy Gleyed Matrix (F2)  ☐ Loamy Gleyed Matrix (F3)  ☐ Stratified Layers (A5) (LRR F)  ☐ Loamy Gleyed Matrix (F3)  ☐ Red Matrix (F3)  ☐ Pepleted Below Dark Surface (A11)  ☐ Pepleted Dark Surface (F6)  ☐ Red Dark Surface (F6)  ☐ Red Dark Surface (F6)  ☐ Sandy Mucky Mineral (S1)  ☐ Depleted Dark Surface (F7)  ☐ Ver Sandy Mucky Mineral (S1)  ☐ Send Mucky Peat or Peat (S2) (LRR G, H)  ☐ Liph Plains Depressions (F8)  ☐ Oth  ☐ Som Mucky Peat or Peat (S3) (LRR F)  ☐ MILRA 72 & 73 of LRR H)  ☐ High Plains Depressions (F16)  ☐ Indicators (Minimum of one required; check all that apply)  ☐ Restrictive Layer (if present):  ☐ Type:  ☐ Depth (inches):  ☐ Depth (inches):  ☐ Primary Indicators (minimum of one required; check all that apply)  ☐ Second Matrix (B1)  ☐ Salt Crust (B11)  ☐ Salt Crust (B13)  ☐ Hydrogen Sulfide Odor (C1)  ☐ Dy Season Water Table (A2)  ☐ Salt Crust (B1)  ☐ Dry-Season Water Table (C2)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Water Marks (B1)  ☐ Dry-Season Water Table (C2)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ (Mehre not tilled)  ☐ Cy-Season Water Table (C2)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Inundation Visible on Aerial Imagery (B7)  ☐ Under-Stained Leaves (B9)  ☐ Inundation Visible on Aerial Imagery (B7)  ☐ Under-Stained Leaves (B9)  ☐ Field Observations:  ☐ Under-Stained Leaves (B9)  ☐ Field Observations:  ☐ Vertander Water Present?  ☐ Yes No Depth (inches):  ☐ Salt Crust (B1)  ☐ Depth (inches):  ☐ Salt Crust (B2)  ☐ Depth (inches):  ☐ Salt Crust (B3)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Oxidized Rhizospheres on Living Roo			
Hvdric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Indicators: Histosos (A1)			
Hvdric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  ∴ Histosos (A1)  ∴ Histosos (A2)  ∴ Histosos (A3)  ∴ Histosos (A3)  ☐ Sandy Gleyed Matrix (S6)  ☐ Black Histic (A3)  ☐ Stripped Matrix (S6)  ☐ Black Histic (A3)  ☐ Stripped Matrix (S6)  ☐ Dar Hydrogen Sulfide (A4)  ☐ Loamy Mucky Mineral (F1)  ☐ Loamy Gleyed Matrix (F2)  ☐ Loamy Gleyed Matrix (F2)  ☐ Loamy Gleyed Matrix (F3)  ☐ Stratified Layers (A5) (LRR F)  ☐ Loamy Gleyed Matrix (F3)  ☐ Red Matrix (F3)  ☐ Pepleted Below Dark Surface (A11)  ☐ Pepleted Dark Surface (F6)  ☐ Red Dark Surface (F6)  ☐ Red Dark Surface (F6)  ☐ Sandy Mucky Mineral (S1)  ☐ Depleted Dark Surface (F7)  ☐ Ver Sandy Mucky Mineral (S1)  ☐ Send Mucky Peat or Peat (S2) (LRR G, H)  ☐ Liph Plains Depressions (F8)  ☐ Oth  ☐ Som Mucky Peat or Peat (S3) (LRR F)  ☐ MILRA 72 & 73 of LRR H)  ☐ High Plains Depressions (F16)  ☐ Indicators (Minimum of one required; check all that apply)  ☐ Restrictive Layer (if present):  ☐ Type:  ☐ Depth (inches):  ☐ Depth (inches):  ☐ Primary Indicators (minimum of one required; check all that apply)  ☐ Second Matrix (B1)  ☐ Salt Crust (B11)  ☐ Salt Crust (B13)  ☐ Hydrogen Sulfide Odor (C1)  ☐ Dy Season Water Table (A2)  ☐ Salt Crust (B1)  ☐ Dry-Season Water Table (C2)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Water Marks (B1)  ☐ Dry-Season Water Table (C2)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ (Mehre not tilled)  ☐ Cy-Season Water Table (C2)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Inundation Visible on Aerial Imagery (B7)  ☐ Under-Stained Leaves (B9)  ☐ Inundation Visible on Aerial Imagery (B7)  ☐ Under-Stained Leaves (B9)  ☐ Field Observations:  ☐ Under-Stained Leaves (B9)  ☐ Field Observations:  ☐ Vertander Water Present?  ☐ Yes No Depth (inches):  ☐ Salt Crust (B1)  ☐ Depth (inches):  ☐ Salt Crust (B2)  ☐ Depth (inches):  ☐ Salt Crust (B3)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Oxidized Rhizospheres on Living Roots (C3)  ☐ Oxidized Rhizospheres on Living Roo			
Hvdric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Indicators: Histosos (A1)	-		
Hvdric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Indicators: Histosos (A1)			
Histosol (A1)	Location: PL=Pore Lining, M=Matrix.		
Histic Epipedon (A2)	ors for Problematic Hydric Soils <sup>3</sup> :		
Black Histic (A3) Stripped Matrix (S6) Dar Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Hig Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Rec Thick Dark Surface (A12) Depleted Matrix (F3) Rec Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Ver Redox Dark Surface (A12) Depleted Dark Surface (F7) Ver Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F8) Oth 2.5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) Well unloce the surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F16) MLRA 72 & 73 of LRR H) Well unloce the surface (F7) Sandy Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) Well unloce the surface (F7) Sandy Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) Well unloce the surface (F7) Sandy Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) Well unloce the surface (F7) Sandy Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) Well unloce the surface (F7) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F	m Muck (A9) (LRR I, J)		
Hydrogen Sulfide (A4)  Stratified Layers (A5) (LRR F)  1 cm Muck (A9) (LRR F, G, H)  Depleted Matrix (F2)  1 cm Muck (A9) (LRR F, G, H)  Depleted Below Dark Surface (A11)  Redox Dark Surface (F6)  Redox Dark Surface (F7)  Sandy Mucky Mineral (S1)  Pedeted Below Dark Surface (F6)  Sandy Mucky Mineral (S1)  Pedeted Dark Surface (F7)  Sandy Mucky Mineral (S1)  Pedeted Dark Surface (F7)  Pedeted Dark Surface (F8)  Other High Plains Depressions (F8)  Indicate well unle (MLRA 72 & 73 of LRR H)  Pestrictive Layer (if present):  Type:  Depth (inches):  Permark:   **Primary Indicators (minimum of one required; check all that apply)  Second Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Innudation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Federated Applications:  For Mucky Mineral (F1)  High Water Present?  Wetland Hydrology Indicators:  Wetland Hydrology Indicators:  Water Table Present?  Yes No Depth (inches):  Wetland Hydrology Indicators:  Indicator Seco	Coast Prairie Redox (A16) (LRR F, G, H)		
Stratified Layers (A5) (LRR F)	Dark Surface (S7) (LRR G) High Plains Depressions (F16)		
1 cm Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Some Mucky Peat or Peat (S2) (LRR G, H) Depleted Dark Surface (F6) Sandy Mucky Peat or Peat (S2) (LRR G, H) Depleted Dark Surface (F8) Oth Depressions (F8) Oth Depressions (F8) Oth Depressions (F16) Indicate Wett Unite Restrictive Layer (if present): Type: Depth (inches): Depth (in	(LRR H outside of MLRA 72 & 73)		
Depleted Below Dark Surface (A11)	Reduced Vertic (F18)		
Thick Dark Surface (A12) Depleted Dark Surface (F7) Ver Sandy Mucky Mineral (S1) Redox Depressions (F8) Oth 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F6) Wetland Hydrold (S1) Restrictive Layer (if present):  Type: Depth (inches): Hydric Semarks:    Page 1	Red Parent Material (TF2)		
2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16) wet unle 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wet unle Restrictive Layer (if present):  Type: Depth (inches): Hydric S  Remarks:    Primary Indicators (minimum of one required; check all that apply) Second Saturation (A3) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (A2) Aquatic Invertebrates (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Drift Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Drift Deposits (B3) (where not tilled) CD Dry-Season Water Table (C2) Sediment Deposits (B3) (where not tilled) CD Dry-Season Water Table (C2) Sediment Deposits (B3) (where not tilled) CD Dry-Season Water Table (C2) Sediment Deposits (B3) (where not tilled) Sediment Deposits (B5) Season Water Table (C7) Sediment Deposits (B5) Season Water Table (C7) Sediment Deposits (B5) Season Water Table (C7) Season Water Table	Very Shallow Dark Surface (TF12)		
5 cm Mucky Peat or Peat (S3) (LRR F)  Restrictive Layer (if present):	Other (Explain in Remarks)		
Restrictive Layer (if present):  Type:	<sup>3</sup> Indicators of hydrophytic vegetation and		
Restrictive Layer (if present):  Type:	and hydrology must be present,		
Type:	ss disturbed or problematic.		
Permarks:    Primary Indicators (minimum of one required; check all that apply)   Secon			
Primary Indicators (minimum of one required; check all that apply)  Secon  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Dry-Season Water Table (C2)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Vater Water (C7)  Water Water (C7)  Water Water (C7)  Presence of Reduced Iron (C4)  Sediment Deposits (B5)  Field Observations:  Surface Water Present?  Ves X  No Depth (inches):  Surface Water Present?  Yes No Depth (inches):  Surface Water Present?  Yes No Depth (inches):  Surface Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	<b>Y</b>		
YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Second         ★       Surface Water (A1)       Salt Crust (B11)       S         High Water Table (A2)       Aquatic Invertebrates (B13)       S         Saturation (A3)       Hydrogen Sulfide Odor (C1)       D         Water Marks (B1)       Dry-Season Water Table (C2)       O         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       O         Drift Deposits (B3)       (where not tilled)       C         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       S         Iron Deposits (B5)       Thin Muck Surface (C7)       G         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       F         Water-Stained Leaves (B9)       F         Field Observations:       Surface Water Present?       Yes       No       Depth (inches):       Wetland Hydrological Projections (Parks)       Wetland Hydrological Projections (Parks	oil Present? Yes No X		
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary         ★ Surface Water (A1)       Salt Crust (B11)       S         High Water Table (A2)       Aquatic Invertebrates (B13)       S         Saturation (A3)       Hydrogen Sulfide Odor (C1)       D         Water Marks (B1)       Dry-Season Water Table (C2)       O         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       (C3)         Drift Deposits (B3)       (where not tilled)       C         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       S         Iron Deposits (B5)       Thin Muck Surface (C7)       G         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       F         Water-Stained Leaves (B9)       F         Field Observations:       Surface Water Present?       Yes X       No Depth (inches):       Wetland Hydrological Propertions (Saturation Present?       Yes No Depth (inches):       Wetland Hydrological Propertions (Saturation Present)       Wetland Hydrological Propertions (Saturation Previous Inspections), if available: <t< td=""><td></td></t<>			
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary         ★ Surface Water (A1)       Salt Crust (B11)       S         High Water Table (A2)       Aquatic Invertebrates (B13)       S         Saturation (A3)       Hydrogen Sulfide Odor (C1)       D         Water Marks (B1)       Dry-Season Water Table (C2)       O         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       (C3)         Drift Deposits (B3)       (where not tilled)       C         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       S         Iron Deposits (B5)       Thin Muck Surface (C7)       G         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       F         Water-Stained Leaves (B9)       F         Field Observations:       Surface Water Present?       Yes X       No Depth (inches):       Wetland Hydrological Properties (C2)         Water Table Present?       Yes No Depth (inches):       Wetland Hydrological Properties (C2)       Wetland Hydrological Properties (C3)         Properties (C2)       Wetland Hydrological Properties (C3)       Wetland Hydrological Properties (C3)       No Depth (inches):       Wetland Hydrological Properties (C3)         Properties (C3)       Wetland Hydrological Prop			
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary         ★ Surface Water (A1)       Salt Crust (B11)       S         High Water Table (A2)       Aquatic Invertebrates (B13)       S         Saturation (A3)       Hydrogen Sulfide Odor (C1)       D         Water Marks (B1)       Dry-Season Water Table (C2)       O         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       C         Drift Deposits (B3)       (where not tilled)       C         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       S         Iron Deposits (B5)       Thin Muck Surface (C7)       G         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       F         Water-Stained Leaves (B9)       F         Field Observations:       Surface Water Present?       Yes       No       Depth (inches):       Wetland Hydrological Processor (Processor)       Wetland Hydrological Processor (			
Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Dry-Season Water Table (C2)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Water Table Present?  Yes No Depth (inches):  Second			
Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Dry-Season Water Table (C2)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Water Table Present?  Yes No Depth (inches):  Second			
Surface Water (A1) Salt Crust (B11) S High Water Table (A2) Aquatic Invertebrates (B13) S Saturation (A3) Hydrogen Sulfide Odor (C1) D Water Marks (B1) Dry-Season Water Table (C2) O Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Drift Deposits (B3) (where not tilled) C Algal Mat or Crust (B4) Presence of Reduced Iron (C4) S Iron Deposits (B5) Thin Muck Surface (C7) G Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) F Water-Stained Leaves (B9) Sield Observations: Surface Water Present? Yes X No Depth (inches): Surface Water Present? Yes No Depth (inches):	dary Indicators (minimum of two required)		
High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present?  Vater Table Present?  Yes No Depth (inches):  Saturation Present?  Yes No	urface Soil Cracks (B6)		
Saturation (A3)	parsely Vegetated Concave Surface (B8)		
Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Drift Deposits (B3) (where not tilled) Care Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Salar Iron Deposits (B5) Thin Muck Surface (C7) Gardinary (B7) Other (Explain in Remarks) For Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) For Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) For Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) For Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) For Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) For Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) For Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) For Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) For Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) For Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) For Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) For Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) For Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) For Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	rainage Patterns (B10)		
Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Drift Deposits (B3) (where not tilled) C C Algal Mat or Crust (B4) Presence of Reduced Iron (C4) S Iron Deposits (B5) Thin Muck Surface (C7) G Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) F Water-Stained Leaves (B9) F S No Depth (inches): Surface Water Present?	xidized Rhizospheres on Living Roots (C3		
Drift Deposits (B3)	(where tilled)		
Algal Mat or Crust (B4) Presence of Reduced Iron (C4) S Iron Deposits (B5) Thin Muck Surface (C7) G Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) F Water-Stained Leaves (B9) F Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches):	rayfish Burrows (C8)		
Iron Deposits (B5)	aturation Visible on Aerial Imagery (C9)		
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) F	eomorphic Position (D2)		
Water-Stained Leaves (B9) Filed Observations:  Surface Water Present? Yes X No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Seturation Present? Yes No Depth (inches):	AC-Neutral Test (D5)		
Surface Water Present? Yes X No Depth (inches): 12  Vater Table Present? Yes No Depth (inches): Wetland Hydrold includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	rost-Heave Hummocks (D7) (LRR F)		
Surface Water Present? Yes X No Depth (inches): 12  Vater Table Present? Yes No Depth (inches): Wetland Hydrold includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	(2.) (2)		
Vater Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches): Wetland Hydrological Includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Saturation Present? Yes No Depth (inches): Wetland Hydrold includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	gy Present? Yes X No		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	gy rresentr tesNo		
Remarks:			

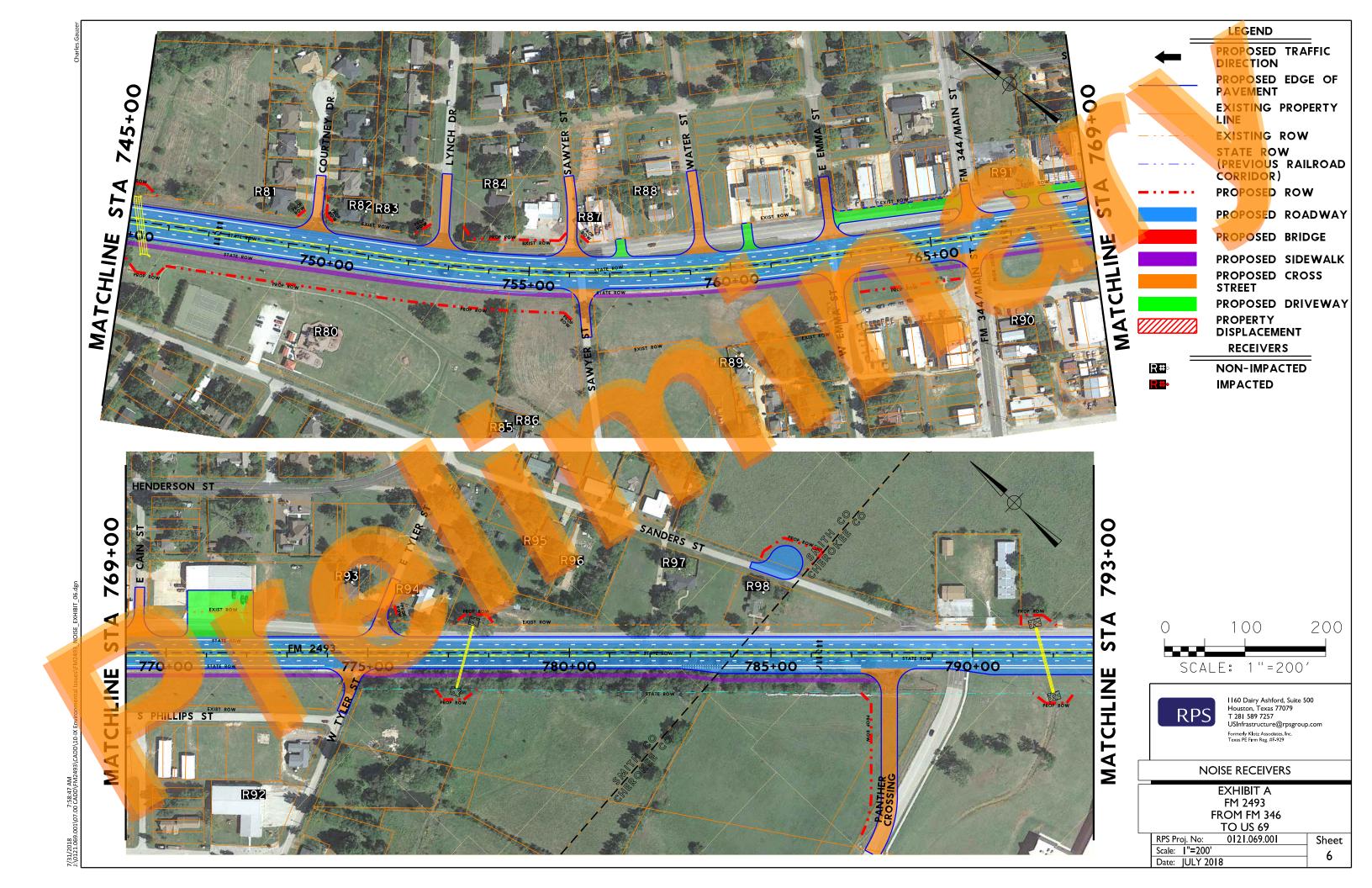


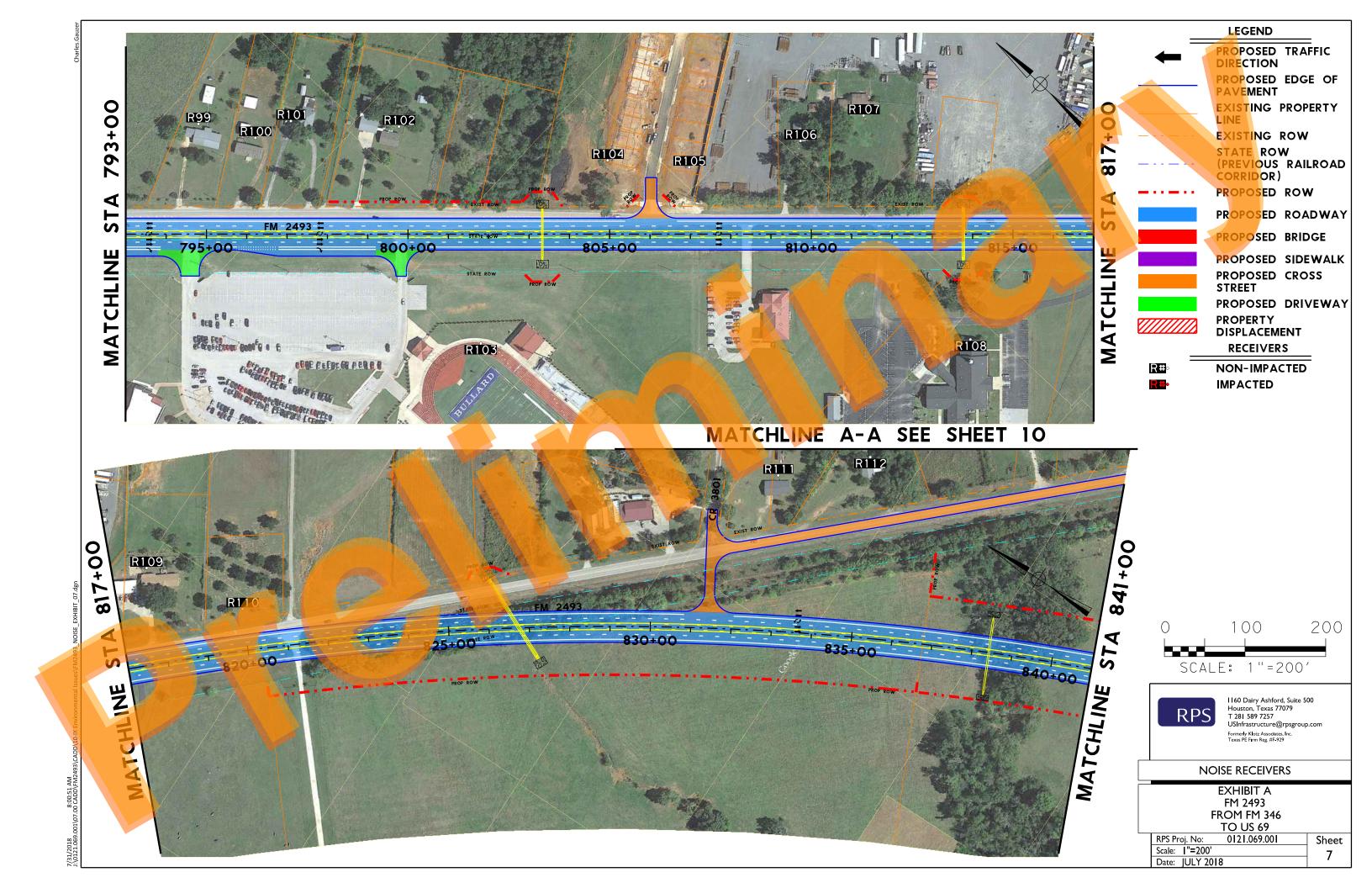


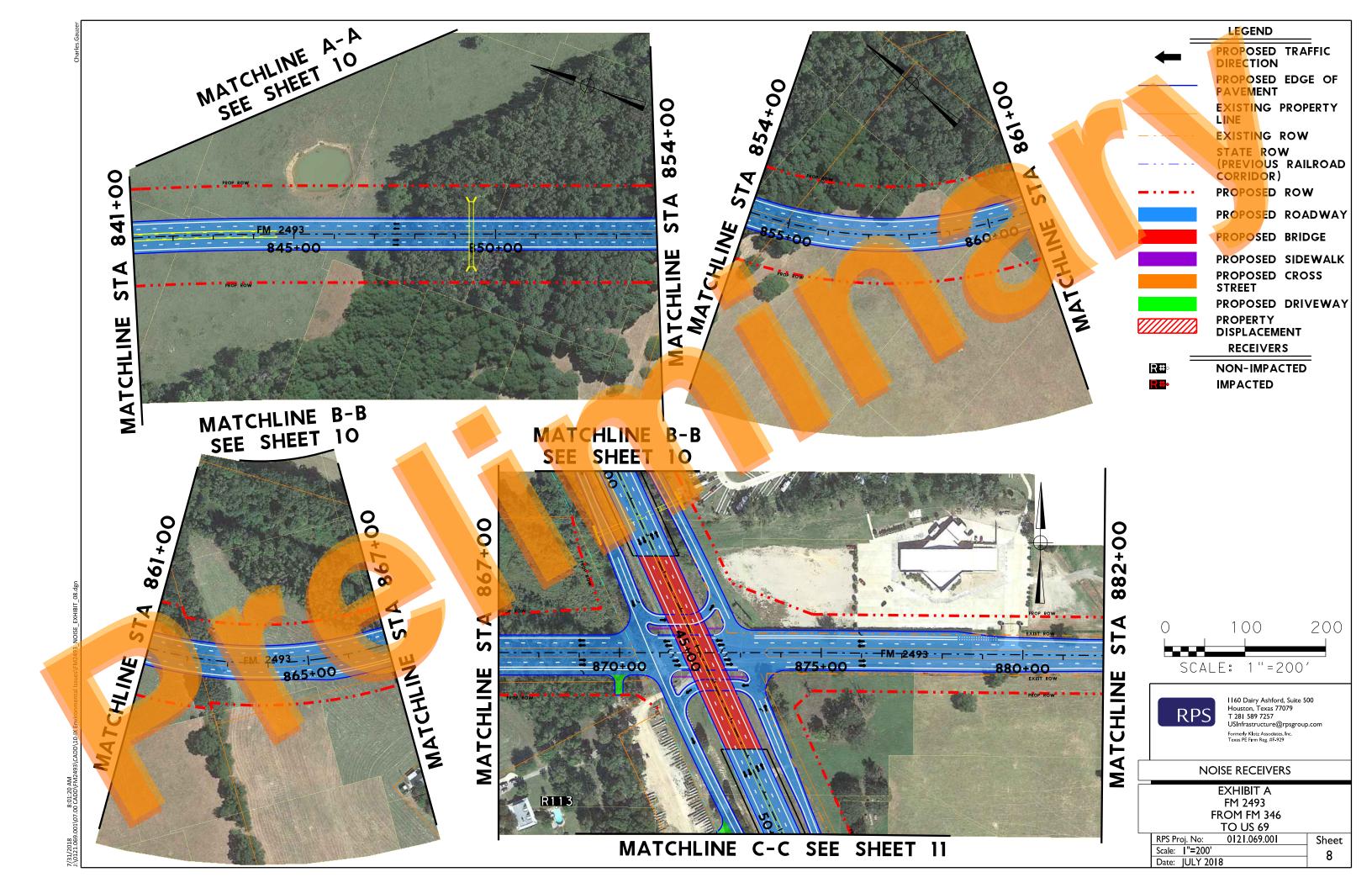


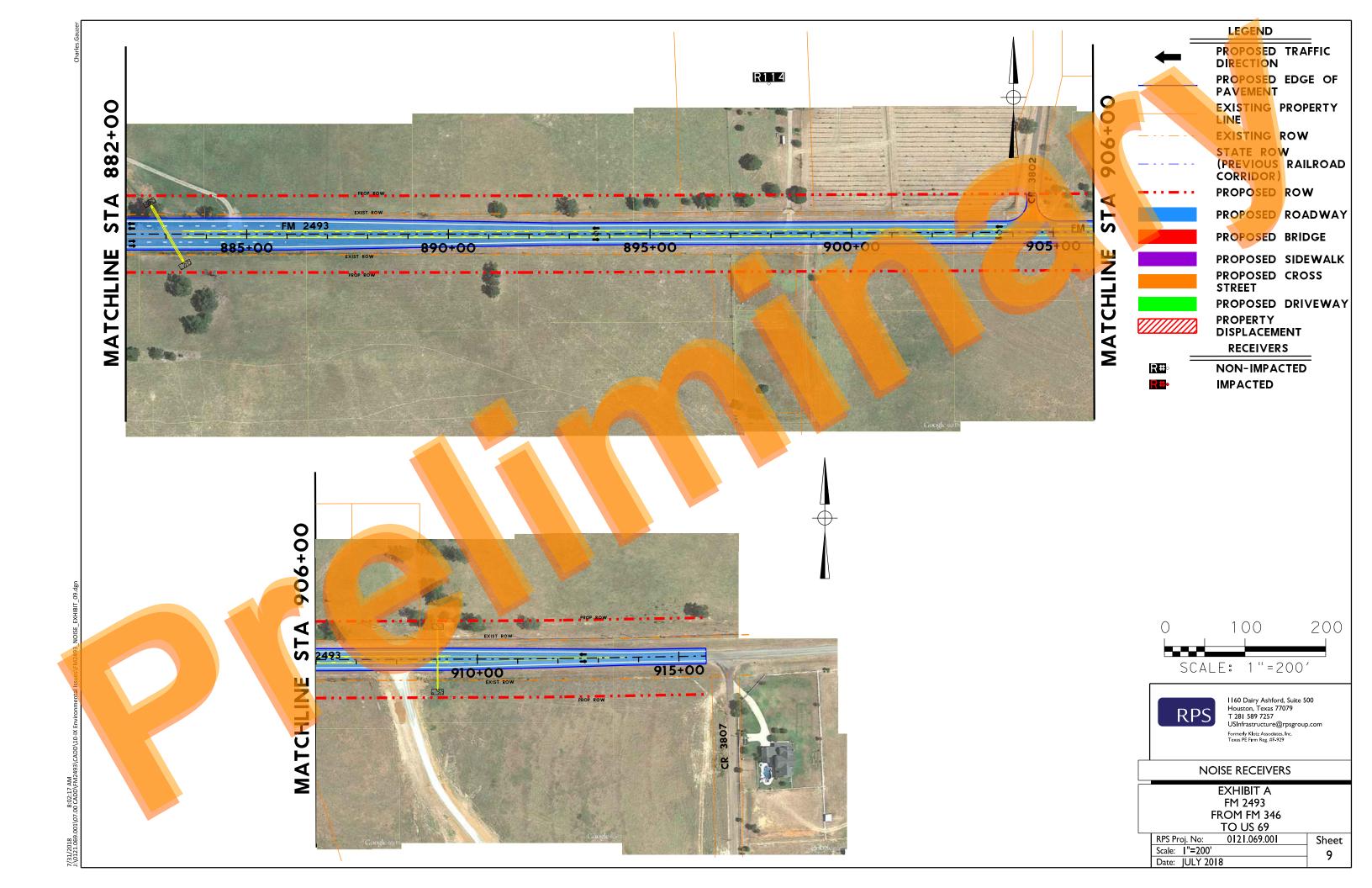


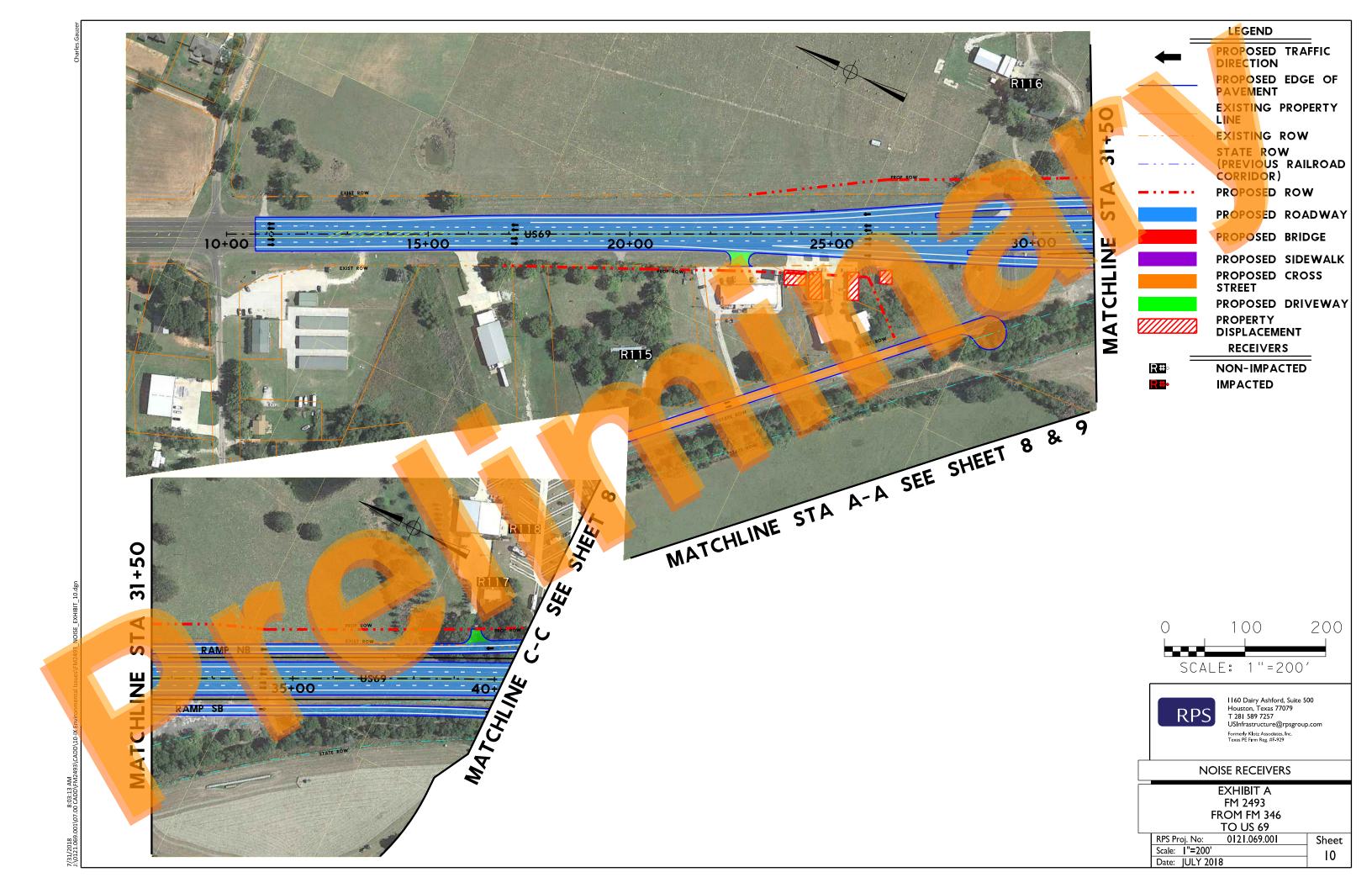


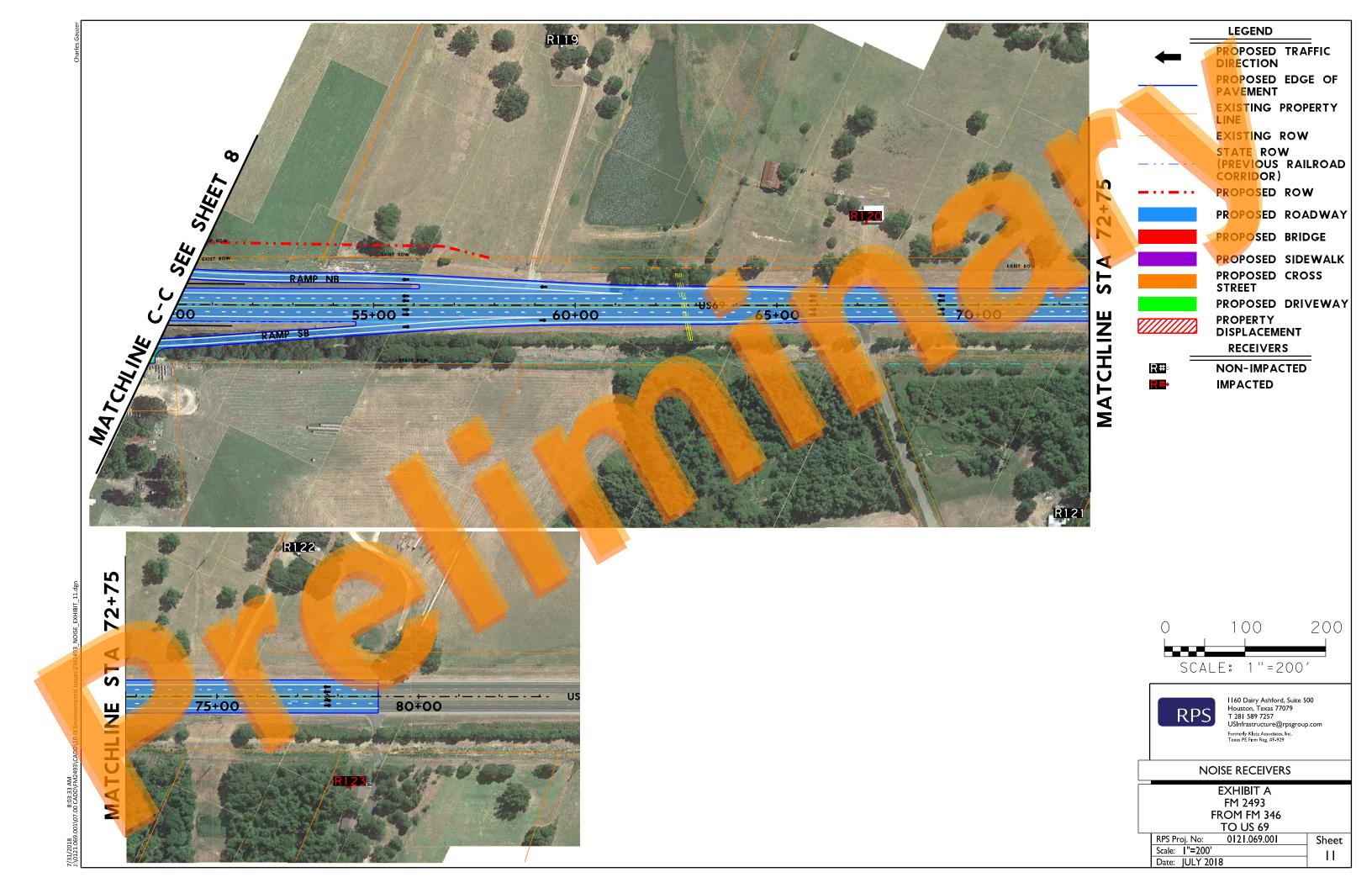












# **Appendix G**Resource Agency Coordination

#### Sarah Stroman

From:

Sarah Stroman

Sent:

Thursday, August 09, 2018 2:41 PM

To:

'kellie@tribaladminservices.org'; 'Ivy@tribaladminservices.org'; 'holly@mathpo.org';

'thpo@tttown.org'; 'edwinaB@astribe.com'; 'snewport@astribe.com';

'dhill@caddonation.org'; 'pgwin@cherokee.org'; 'elizabeth-toombs@cherokee.org'; 'ashively@jenachoctaw.org'; 'isham.t@sno-nsn.gov'; 'kpenrod@delawarenation.com'; 'lbrown@tonkawatribe.com'; 'mallen@tonkawatribe.com'; 'sbird@ukb-nsn.gov';

'dragle@choctawnation.com'; 'Celestine.bryant@actribe.org'; 'alec.tobine@actribe.org'

Cc:

Laura Cruzada; Nicolle Kord

Subject:

Section 106 Consultation, Texas Department of Transportation, CSJ: 0191-03-083; FM

2493 from US 69 to FM 346, Widen Existing Roadway; Cherokee and Smith Counties, Tyler District

Attachments:

019103083\_Consultation\_Request\_09-Aug-2018.pdf

#### Sec. 106 Consultation We kindly request your comments regarding a proposed undertaking. Please see the attached info for project details and information. A summary is provided below. **Summary:** CSJ: 0191-03-083; FM 2493 from US 69 to FM 346, Contact: Project ID (CSJ), Widen Existing Roadway; Cherokee and Smith Counties, Tyler District County and TxDOT Nicolle Kord District 512-416-2698 TxDOT Project Sponsor: Short Description: Road widening Laura Cruzada 512-416-2638 New Right of Way: Approximately 68 acres Depth of Impacts: 10 - 100 ft. Known Archeological Yes Sites or Properties in project area: Identification Efforts: Desktop study A pedestrian intensive survey augmented by shovel Recommendations: testing is recommended for the proposed new right-ofway at the two stream crossings near the northern end of the APE and at most of the undeveloped areas that extend beyond the existing utility corridor; approximately 55.58 acres.

Sarah G. Stroman

Texas Department of Transportation **Environmental Affairs Division** 118 E. Riverside Drive Austin, Texas 78704

512/416-2608 Office 512/550-9306 Mobile 512/416-2746 Fax





Office of the Chief

Bill John Baker Principal Chief OP Ch JSS& DY OEOGA

S. Joe Crittenden Deputy Principal Chief a. K.G. JEYAY WPA DLOA OEOGA

September 4, 2018

Sarah G. Stroman Texas Department of Transportation 118 E Riverside Drive Austin, TX 78704

Re:

0191-03-083; FM 2493 from US-69 to FM 346, Widen Existing Roadway

Ms. Sarah G. Stroman:

The Cherokee Nation (Nation) is in receipt of your correspondence about 0191-03-083; FM 2493 from US-69 to FM 346, Widen Existing Roadway, and appreciates the opportunity to provide comment upon this project.

The Nation maintains databases and records of cultural, historic, and pre-historic resources in this area. Our Historic Preservation Office reviewed this project, cross referenced the project's legal description against our information, and found no instances where this project intersects or adjoins such resources. Thus, the Nation does not foresee this project imparting impacts to Cherokee cultural resources at this time.

However, the Nation requests that the Texas Department of Transportation (TXDOT) halt all project activities immediately and re-contact our Offices for further consultation if items of cultural significance are discovered during the course of the survey and/or project.

Additionally, the Nation requests that TXDOT conduct appropriate inquiries with other pertinent Tribal and Historic Preservation Offices regarding historic and prehistoric resources not included in the Nation's databases or records.

If you require additional information or have any questions, please contact me at your convenience. Thank you for your time and attention to this matter.

Wado,

Elizabeth Toombs, Tribal Historic Preservation Officer Cherokee Nation Tribal Historic Preservation Office

elizabeth-toombs@cherokee.org

918.453.5389

CC: Laura Cruzada

# **Christine Crosby**

From:

**Christine Crosby** 

Sent:

Wednesday, September 05, 2018 9:05 AM

To:

'WHAB\_TxDOT@tpwd.texas.gov'

Subject:

Request for Early Coordination, FM 2493 Widening, (TxDOT CSJ: 0191-03-083)

Attachments:

Christine Crosby.vcf; 2018-08-03 02\_52\_22\_Biological Evaluation Form with Attachments

REVISED 8-3-2018.pdf; FM2493\_019103083\_locationmap.pdf

Please find attached a request for early coordination in association with the above-referenced proposed project. Attached are files including the project description, location map, and Bio. Eval.

If you have any questions, or need any further information, please let me know.

Thank you,

#### **Christine Crosby**

TXDOT

**Environmental Specialist** 

TYL

(903) 510-9159 christine.crosby@txdot.gov 2709 West Front Street TYLER, TX 75702

#### **Christine Crosby**

From:

WHAB\_TxDOT <WHAB\_TxDOT@tpwd.texas.gov>

Sent:

Wednesday, September 05, 2018 9:07 AM

To:

**Christine Crosby** 

Cc:

WHAB\_TxDOT

Subject:

TPWD has received your request for early coordination

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

This notification was automatically generated to indicate TPWD has received your Early Coordination request. You will soon be contacted by the biologist assigned to review your project.

If the request you submitted was for Administrated Coordination, please follow the process described in the Memorandum of Understanding between TxDOT and TPWD regarding Administrated Project Coordination (see Texas Administrative Code Title 43 Part 1 Chapter 2 Subchapter G Rule §2.208).

### **Christine Crosby**

From:

Sue Reilly <Sue.Reilly@tpwd.texas.gov

Sent:

Tuesday, October 02, 2018 11:09 AM

To: Subject: Christine Crosby RE: FM 2493 (0191-03-083) Tier 1 with Attachements

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

#### Christine,

Thank you for sending the Tier I Form. I pulled up the schematics from ECOS and I do have one question. There is a crossing at the northern part of the project just north of Southern Trace Drive where the alignment appears to be shifting eastward where it crosses a tributary of West Mud Creek. Will the existing pavement and fill be removed and restored to original contours?

Thank you,

Sue Reilly Transportation Assessment Liaison Texas Parks and Wildlife Wildlife Division 512-389-8021

From: Christine Crosby < <a href="mailto:Crosby@txdot.gov">Christine.Crosby@txdot.gov">Christine.Crosby@txdot.gov</a>

Sent: Tuesday, October 2, 2018 10:18 AM
To: Sue Reilly <Sue.Reilly@tpwd.texas.gov>

Subject: FM 2493 (0191-03-083) Tier 1 with Attachements

Sue,

FM 2493 Tier 1 with attachments is attached.

Thanks, Christine

#### **Christine Crosby**

TXDOT
Environmental Specialist
TYL

(903) 510-9159 christine.crosby@txdot.gov 2709 West Front Street TYLER, TX 75702